2011 Georgia Tuberculosis Report

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Tuberculosis (TB) Surveillance in Georgia

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 347 new tuberculosis (TB) cases in 2011. This represents a 16% decrease from 411 TB cases reported in 2010 (Figure 1), and a 62% decrease since 1991 when the peak of a resurgent period of tuberculosis occurred in Georgia. The TB case rate in Georgia decreased from 4.2 cases per 100,000 population during 2010 to 3.5 cases per 100,000 in 2011. Georgia had the eleventh-highest TB case rate among the 50 states of the United States in 2011.

Geographic Distribution

Among the 159 counties in Georgia, four counties in the metropolitan Atlanta area reported the highest number of TB cases in 2011: DeKalb (76 cases), Gwinnett (48), Fulton (45), and Cobb (16) (Table 1, Figure 2). These four counties accounted for 53% of TB cases reported in Georgia in 2011.

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 2011 (10.9 per 100,000), followed by Albany (5.0 per 100,000) and Lawrenceville (4.8 per 100,000).

Sex and Age Distribution

In 2011, TB in Georgia occurred predominantly among males (225 cases, 65%), compared to females (122, 35%); while the highest proportion of TB cases by age group occurred among persons 45-64 years old (143 cases, 35%). Among males, the highest proportion of cases occurred in the 45-64 year old age group (37%) while among females, the highest proportion was in the 25-44 year old age group (34%) (Figure 4). The highest TB case rate by age group was among persons 45-64 years old (4.6 per 100,000) while the lowest was among children 5-14 years old (0.7 per 100,000) (Figure 5). 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 2.0 per 100,000 in 2010 to 2.3 per 100,000 in Georgia during 2011.

Race/Ethnicity Distribution and TB Disparities

TB disproportionately affects racial/ethnic minorities in Georgia. In 2011, non-Hispanic blacks, Asians and Hispanics, accounted for 48%, 17% and 20% of TB cases in Georgia respectively, but only represented 30%, 3.3% and 9.1% of Georgia's population respectively (Figure 6). Non-Hispanic whites constituted 15% of TB cases in 2011. The highest TB case rate among race/ethnic groups was among Asians (16.8 per 100,000), followed by Hispanics (7.6 per 100,000), and non-Hispanic blacks (5.3 per 100,000) (Figure 7). The black non-Hispanic TB case rate in 2011 represents an almost 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 6 times higher than the white non-Hispanic TB case rate (0.9 per 100,000) in Georgia during 2011 (Figure 8).

High-Risk Populations

Foreign-Born

TB cases among persons born outside of the United States accounted for 46% of TB cases in Georgia in 2011 compared to 44% in 2010. Most foreign-born cases reported in 2011 came from Mexico (27%), and India (12%), Guatemala (9%) - countries where TB is an endemic disease (Figures 9-10). Among 159 foreign-born cases, 60 (38%) were diagnosed in the first five years of their arrival in the U.S.

In 2011, four Health Districts reported 68% of the total number of foreign-born TB cases in Georgia: DeKalb (42 cases), Lawrenceville (33), Cobb (15) and Fulton (18). Among these Health Districts, foreign-born TB cases accounted for more than half of the TB cases in Lawrenceville (67%), Cobb (75%) and DeKalb (55%). Foreign-born TB cases in the Fulton Health District accounted for 40% of reported TB cases in Fulton.

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 310 TB cases in Georgia with known HIV status in 2011, 10% were HIV-positive compared to 11% in 2010 (Figure 11). Among 31 HIV co-infected TB cases in 2011, 65% were non-Hispanic blacks, 74% were male and 55% were 25-44 years old.

HIV status was reported in 89% of TB cases in 2011 compared to 92% in 2010. In the high-risk age group of adults 25-44 years of age, the percentage of TB cases for which HIV was reported was 94% in 2010 and 2011. Among 37 TB cases whose HIV status was not reported, HIV testing was not offered to 30 cases (81%), the HIV test result was unknown in one case (3%), and six (16%) refused testing. The highest proportion by age group among the TB cases that were not offered the HIV test, occurred among children 0-14 years old (12 cases, 40%).

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. In 2011, 32 (9%) TB cases in Georgia were homeless, 31 (9%) were residents of correctional facilities, and 4 (1%) were residents of long-term care facilities. Of the 31 TB cases incarcerated in correctional facilities, 19 (61%) were inmates in state prisons, five (16%) in county jails, four (13%) in the Immigration and Custom Enforcement Detention Center in Stewart County, and three (10%) were in federal prisons.

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 75 (22%) TB cases in 2011 (Table 3, Figure 12).

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 2011, children younger than 15 years old comprised 8% of Georgia TB cases; 16 cases (2.3 per 100,000) were reported in children younger than 5 years old, 10 cases (0.7 per 100,000) were reported in children 5-14 years old. One child had TB meningitis.

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 2011, 50 children younger than five years old were reported to have LTBI in Georgia; 31 were identified by TB screening in pediatric clinics, and 19 from contact investigations. Public health staff identified the source case of the child's infection in 31 (62%) of these children.

Drug Resistance

Among 247 culture-positive TB cases in Georgia during 2011, 244 (99%) were tested for initial drug susceptibility to the three first-line anti-TB medications: isoniazid (INH), rifampin (RIF), and ethambutol (EMB). Of 228 tested isolates from Georgia cases with no previous history of TB, 23 (10.1%) had primary resistance to INH, one (0.4%) to RIF, and one (0.4%) to EMB (Table 4). One (0.4%) case in 2011 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 6% to 14% 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 13).

Indicators of Infectiousness

Persons with pulmonary or laryngeal TB have the potential to infect others with TB, and infectiousness is higher if their sputum smears are positive for acid-fast bacilli (AFB), sputum cultures are positive for *Mycobacterium tuberculosis*, or cavitary lesions are present on chest radiography. In 2011, 78% of all Georgia TB cases had pulmonary

TB, 71% had sputum cultures that were positive for *Mycobacterium tuberculosis*, 34% were sputum AFB smear-positive, and 20% showed cavitary 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 2011, 230 (66%) of the 347 TB cases in Georgia were reported initially by a hospital. Twelve hospitals in Georgia reported five or more TB cases in 2011: Grady Memorial Hospital (32 cases), Northside Hospital (13 cases), DeKalb Medical Center (12 cases), Gwinnett Medical Center (11 cases), St. Joseph's Hospital in Atlanta (8 cases), Medical Center of Central Georgia in Macon (8 cases), Children's Healthcare of Atlanta at Scottish Rite (6 cases), Phoebe Putney Memorial Hospital in Albany (6 cases), Atlanta Medical Center (5 cases), Memorial Health University Medical Center in Savannah (5 cases), Piedmont Hospital (5 cases), and Wellstar Kennestone Hospital (5 cases). These twelve hospitals accounted for half of all patients hospitalized for TB in Georgia in 2011. County health departments provided case management for 88% of all Georgia TB cases, correctional facilities treated 7%, 3% 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 311 Georgia TB cases reported in 2010 with available case completion data, 84% received TB treatment entirely by DOT, 14% were treated by a combination of DOT and self-administered therapy, and only 1% self-administered their medications for the entire duration of their treatment.

TB Mortality

Eighteen persons died of TB in Georgia in 2010. The age-adjusted TB mortality rate in 2010 was 0.2 per 100,000. From 2005 to 2010, an average of 17 people died of TB in Georgia each year (range = 14-31).

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 ask recent contacts to a case if they have TB-like symptoms, 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. Persons with LTBI have a positive TST or IGRA, but are asymptomatic and have a normal chest radiology exam. They are not contagious but

have a 10% chance of developing TB disease later in life if they do not receive treatment for LTBI.

Among 5,352 identified contacts of Georgia TB cases reported in 2010 (the most recent year with completed contact investigation data), 4,440 (83%) were completely evaluated for TB disease and LTBI. Of the completely evaluated contacts, 858 (19%) had LTBI and 25 (0.6%) had TB disease. Among the contacts with LTBI, 539 (63%) started LTBI treatment and among 536 infected contacts with treatment outcome information, only 348 (65%) completed LTBI treatment.

TB Program Objectives:

Objective 1**:** By 2015, 93% of Georgia TB patients will complete a course of TB treatment within 12 months of starting treatment.

Among 340 TB cases reported in Georgia during 2010 who were eligible to complete TB treatment within 12 months and who did not die or move outside of the U.S. during TB treatment, 338 have available data on TB treatment completion. Of the 338 cases with available treatment completion data, 312 (92%) completed treatment within 12 months; 16 (5%) completed treatment after 12 months, 4 (1.2%) were lost to follow-up, three (0.9%) had to stop treatment due to adverse side effects to TB medications, two (0.6%) were uncooperative and refused treatment and one (0.3%) had "Other" cited as the cause for stopping treatment. Among the 16 TB cases that completed TB treatment but extended treatment beyond 12 months, four were non-adherent to treatment plans, four extended TB treatment due to a clinical indication, and no explanation for extended treatment was available for eight other cases.

In 2010, Georgia TB cases who were homeless, drug abuser, correctional facility inmates, were HIV infected, or alcoholics, had lower rates of timely treatment completion (within 12 months) than the over-all average for all TB cases in Georgia. Though this objective was not achieved, timely treatment completion has improved since 1994, when directly observed therapy became the recommended standard of care for TB treatment in Georgia (Figure 14).

Objective 2: By 2015, 100% of TB cases with sputum smears that are positive for acid-fast bacillus (AFB) will have contacts identified.

In 2010, all 139 Georgia TB patients with positive AFB sputum smears had contacts elicited, meeting the program target of 95%.

Objective 3: By 2015, increase the proportion of contacts of acid fast bacilli (AFB) sputum smear positive (SSP) TB cases in Georgia who are evaluated for TB infection or disease to 93%

Among 2,776 contacts to AFB sputum smear positive TB cases in 2010, 2,247 (81%) were completely evaluated for TB infection or disease. Among the 529 contacts

who were not completely evaluated, 263 had data on reasons why their evaluations were not completed which included 154 (54%) who refused or were uncooperative, 72 (25%) were lost to follow-up, 18 (6%) had "Other" selected as the reason for incomplete evaluation, 17 (6%) moved, and two (0.7%) died. The incomplete evaluations were due to: 324 (61%) contacts without a second tuberculin skin test (TST) result reported after the first TST was negative, 143 (27%) without an initial TST or interferon gamma release assay (IGRA) test, 44 (8%) with a positive TST or IGRA but no chest radiography report, and 18 (3%) without a second IGRA result after the first IGRA was negative.

Objective 4: By 2015, among infected contacts of acid fast bacilli (AFB) sputum smear positive (SSP) TB cases in Georgia, at least 70 percent who started therapy for latent TB infection (LTBI) will complete LTBI therapy.

Among 2,247 contacts of AFB SSP cases who were completely evaluated for TB infection or disease, 402 (18%) had latent TB infection (LTBI). Among those with LTBI, 290 (72%) started LTBI treatment but only 169 (58%) of 289 contacts with information on LTBI treatment outcomes, completed LTBI treatment (Tables 11-12).

Table 1. Number of TB Cases and TB Case Rates* per 100,000 population by County, Georgia, 2010-2011

COUNTY	2010		2011	
	Number of cases	Case Rate	Number of cases	Case Rate
Appling	<5	--	0	0
Atkinson	<5	--	<5	--
Bacon	0	0	0	0
Baker	<5	--	<5	--
Baldwin	<5	--	<5	--
Banks	<5	--	0	0
Barrow	0	0	<5	--
Bartow	<5	--	0	0
Ben Hill	0	0	0	0
Berrien	<5	--	0	0
Bibb	7	4.5	7	4.5
Bleckley	0	0	<5	--
Brantley	0	0	<5	--
Brooks	0	0	<5	--
Bryan	0	0	0	0
Bulloch	0	0	<5	--
Burke	0	0	0	0
Butts	0	0	0	0
Calhoun	0	0	<5	--
Camden	<5	--	0	0
Candler	0	0	0	0
Carroll	0	0	0	0
Catoosa	0	0	<5	--
Charlton	0	0	0	0
Chatham	10	3.8	6	2.2
Chattahoochee	0	0	0	0
Chattooga	<5	--	<5	--
Cherokee	<5	--	<5	--
Clarke	<5	--	<5	--
Clay	0	0	0	0
Clayton	8	3.1	9	3.4
Clinch	<5	--	<5	--
Cobb	26	3.8	16	2.3
Coffee	0	0	0	0
Colquitt	0	0	<5	--
Columbia excludes ASMP Augusta State Med Prison (ASMP)	8 18	6.4 na	4 16	3.1 na
Cook	0	0	0	0
Coweta	<5	--	<5	--
Crawford	0	0	0	0
Crisp	<5	--	<5	--
Dade	0	0	0	0
Dawson	0	0	0	0
Decatur	<5	--	<5	--
DeKalb	86	12.4	76	10.9
Dodge	0	0	<5	--
Dooly	<5	--	0	0
Dougherty	6	6.3	5	5.3
Douglas	<5	--	<5	--

COUNTY	2010		2011	
	Number of cases	Case Rate	Number of cases	Case Rate
Early	0	0	0	0
Echols	0	0	0	0
Effingham	<5	--	<5	--
Elbert	<5	--	0	0
Emanuel	0	0	0	0
Evans	0	0	<5	--
Fannin	<5	--	<5	--
Fayette	<5	--	<5	--
Floyd	0	0	<5	--
Forsyth	0	0	<5	--
Franklin	0	0	<5	--
Fulton	51	5.5	45	4.7
Gilmer	<5	--	0	0
Glascock	0	0	0	0
Glynn	<5	--	<5	--
Gordon	<5	--	0	0
Grady	<5	--	<5	--
Greene	0	0	<5	--
Gwinnett	56	7.0	48	5.8
Habersham	<5	--	0	0
Hall	6	3.3	8	4.4
Hancock	0	0	<5	--
Haralson	0	0	0	0
Harris	0	0	0	0
Hart	0	0	<5	--
Heard	0	0	0	0
Henry	<5	--	<5	--
Houston	6	4.3	<5	--
Irwin	<5	--	<5	--
Jackson	0	0	0	0
Jasper	0	0	0	0
Jeff Davis	0	0	0	0
Jefferson	<5	--	0	0
Jenkins	0	0	0	0
Johnson	<5	--	0	0
Jones	0	0	0	0
Lamar	0	0	<5	--
Lanier	0	0	0	0
Laurens	0	0	0	0
Lee	0	0	0	0
Liberty	0	0	<5	--
Lincoln	0	0	0	0
Long	0	0	0	0
Lowndes	<5	--	<5	--
Lumpkin	0	0	0	0
Macon	0	0	<5	--
Madison	0	0	<5	--
Marion	0	0	0	0
McDuffie	<5	--	0	0
McIntosh	<5	--	0	0
Meriwether	0	0	0	0

COUNTY	2010		2011	
	Number of cases	Case Rate	Number of cases	Case Rate
Miller	0	0	0	0
Mitchell	<5	--	0	0
Monroe	0	0	0	0
Montgomery	0	0	0	0
Morgan	0	0	0	0
Murray	0	0	<5	--
Muscogee	8	4.2	5	2.6
Newton	5	5.0	<5	--
Oconee	0	0	<5	--
Oglethorpe	0	0	0	0
Paulding	<5	--	0	0
Peach	<5	--	<5	--
Pickens	0	0	<5	--
Pierce	0	0	0	0
Pike	0	0	<5	--
Polk	0	0	0	0
Pulaski	0	0	0	0
Putnam	0	0	0	0
Quitman	<5	--	0	0
Rabun	0	0	0	0
Randolph	0	0	0	0
Richmond	6	3.5	<5	--
Rockdale	<5	--	0	0
Schley	0	0	0	0
Screven	<5	--	0	0
Seminole	0	0	0	0
Spalding	<5	--	0	0
Stephens	<5	--	0	0
Stewart excludes Stewart ICE Detention Center (SDC) SDC only	0 6	0 na	0 4	0 na
Sumter	<5	--	<5	--
Talbot	0	0	0	0
Taliaferro	0	0	0	0
Tattnall	0	0	0	0
Taylor	0	0	0	0
Telfair	0	0	0	0
Terrell	<5	--	<5	--
Thomas	<5	--	<5	--
Tift	<5	--	<5	--
Toombs	<5	--	0	0
Towns	0	0	0	0
Treutlen	0	0	0	0
Troup	5	7.4	<5	--
Turner	<5	--	<5	--
Twiggs	0	0	0	0
Union	<5	--	0	0
Upson	<5	--	0	0
Walker	<5	--	<5	--
Walton	0	0	<5	--
Ware	<5	--	<5	--

COUNTY	2010		2011	
	Number of cases	Case Rate	Number of cases	Case Rate
Warren	0	0	0	0
Washington	0	0	0	0
Wayne	0	0	0	0
Webster	0	0	0	0
Wheeler	0	0	0	0
White	0	0	<5	--
Whitfield	<5	--	<5	--
Wilcox	<5	--	0	0
Wilkes	0	0	<5	--
Wilkinson	0	0	0	0
Worth	<5	--	0	0
Georgia Total	411	4.2	347	3.5

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

Table 2. Number of TB Cases and TB Case Rates* per 100,000 population by Health District, Georgia, 2010- 2011

Health District	2010		2011	
	Number of Cases	Case rate	Number of Cases	Case rate
1.1 Rome	11	1.7	5	0.8
1.2 Dalton	10	2.3	7	1.6
2.0 Gainesville	10	1.6	14	2.2
3.1 Cobb	28	3.4	20	2.4
3.2 Fulton	51	5.5	45	4.7
3.3 Clayton	8	3.1	9	3.4
3.4 Lawrenceville	65	6.6	49	4.8
3.5 DeKalb	86	12.4	76	10.9
4.0 LaGrange	13	1.6	8	1.0
5.1 Dublin	2	1.3	3	1.9
5.2 Macon	17	3.3	16	3.1
6.0 Augusta	19	4.3	8	1.7
Augusta State Medical Prison (ASMP) only	18	na	16	na
7.0 Columbus	12	2.9	9	3.5
ICE Detention only	6	na	4	na
8.1 Valdosta	10	4.0	9	3.5
8.2 Albany	15	4.2	18	5.0
9.1 Coastal	18	3.2	13	2.2
9.2 Waycross	7	1.9	11	3.0
10 Athens	5	1.1	7	1.5
Georgia Total	411	4.2	347	3.5

Table 3. Percentage of TB Cases with Risk Factors for TB by Health District Georgia, 2011

HEALTH DISTRICT	Foreign-born %	HIV Infected %	Homeless %	Inmate %	Nursing Home %	Substance Abuse %
1.1 Rome	40	0	0	0	0	0
1.2 Dalton	57	0	0	0	0	14
2.0 Gainesville	26	10	14	14	0	21
3.1 Cobb	75	11	10	0	0	5
3.2 Fulton	40	21	17	2	0	31
3.3 Clayton	67	25	22	0	0	11
3.4 Lawrenceville	69	6	0	2	0	8
3.5 DeKalb	55	13	11	3	0	14
4.0 LaGrange	13	0	29	0	13	15
5.1 Dublin	0	0	33	33	0	33
5.2 Macon	25	0	6	13	6	19
6.0 Augusta	50	0	0	0	0	0
ASMP only	0	6	6	100	0	25
7.0 Columbus	25	0	0	0	0	33
ICE only	32	0	0	100	0	25
8.1 Valdosta	22	33	0	0	0	33
8.2 Albany	39	6	6	0	6	22
9.1 Coastal	23	8	15	8	0	8
9.2 Waycross	27	0	0	0	0	0
10 Athens	57	0	29	20	0	14
Georgia Total	46	10	9	9	0.8	17

Table 4. Primary Resistance to First-line Anti-TB Medications by Health District Georgia, 2011

TB Drug	Isoniazid		Rifampin		Ethambutol	
HEALTH DISTRICT	No.	%	No.	%	No.	%
1.1 Rome	1	33	0	0	0	0
1.2 Dalton	0	0	0	0	0	0
2.0 Gainesville	3	21	0	0	0	0
3.1 Cobb	0	0	0	0	0	0
3.2 Fulton	2	6	0	0	0	0
3.3 Clayton	2	25	1	13	0	0
3.4 Lawrenceville	2	6	0	0	1	3
3.5 DeKalb	4	10	0	0	0	0
4.0 LaGrange	2	25	0	0	0	0
5.1 Dublin	1	33	0	0	0	0
5.2 Macon	0	0	0	0	0	0
6.0 Augusta & ASMP	1	6	0	0	0	0
7.0 Columbus & ICE	0	0	0	0	0	0
8.1 Valdosta	0	0	0	0	0	0
8.2 Albany	1	8	0	0	0	0
9.1 Coastal	0	0	0	0	0	0
9.2 Waycross	1	11	0	0	0	0
10 Athens	2	50	0	0	0	0
Georgia Total	23	10	1	0.4	1	0.4

Table 5. Completion of TB Treatment (Tx) by Health District, Georgia, 2009-2010

HEALTH DISTRICT	2009		2010		
	No. Cases that Completed Tx/ No. Cases Started Tx*	%	No. Cases that Completed Tx/No. Cases Started Tx*	%	No. Cases Missing data
1.1 Rome	11/11	100	11/11	100	0
1.2 Dalton	9/9	100	10/10	100	0
2.0 Gainesville	12/13	92	5/5	100	0
3.1 Cobb	19/19	100	24/25	96	0
3.2 Fulton	67/68	98	46/46	100	0
3.3 Clayton	11/11	100	8/8	100	0
3.4 Lawrenceville	46/51	90	56/60	93	0
3.5 DeKalb	47/57	82	77/78	99	0
4.0 LaGrange	11/12	92	7/10	70	1
5.1 Dublin	3/3	100	1/1	100	0
5.2 Macon	10/10	100	15/15	100	0
6.0 Augusta	17/18	94	15/15	100	1
ASMP only	8/9	89	17/18	94	0
7.0 Columbus	16/17	94	10/10	100	0
ICE only	0/1	0	na	na	na
8.1 Valdosta	5/5	100	8/8	100	0
8.2 Albany	14/14	100	12/13	92	0
9.1 Coastal	18/19	95	14/14	100	0
9.2 Waycross	5/5	100	5/5	100	0
10 Athens	4/4	100	5/5	100	0
Georgia Total	333/356	94	346/357	97	2

*patients who died or moved outside the U.S. during TB treatment are not included in calculation

Table 6. Timely Completion of TB Treatment (Tx) among TB cases eligible for 12-month TB Tx by Health District, Georgia, 2009-2010

HEALTH DISTRICT	2009		2010		
	No. Cases Completed Tx in 12 months/ No.Started Tx	%	No. Cases Completed Tx in 12 months/ No. Started Tx	%	No. cases Missing data
1.1 Rome	9/12	75	11/11	100	0
1.2 Dalton	9/9	100	10/10	100	0
2.0 Gainesville	12/13	92	4/5	80	0
3.1 Cobb	17/18	94	23/25	92	0
3.2 Fulton	59/63	94	41/44	93	0
3.3 Clayton	11/11	100	7/8	88	0
3.4 Lawrenceville	40/52	77	52/55	94	0
3.5 DeKalb	40/55	73	67/71	94	0
4.0 LaGrange	11/12	92	7/10	70	1
5.1 Dublin	3/3	100	1/1	100	0
5.2 Macon	9/9	100	12/14	86	0
6.0 Augusta	13/18	72	10/11	91	1
ASMP only	8/9	89	15/18	83	0
7.0 Columbus	15/16	94	10/10	100	0
8.1 Valdosta	5/5	100	8/8	100	0
8.2 Albany	14/14	100	11/13	85	0
9.1 Coastal	17/18	94	13/14	93	0
9.2 Waycross	5/5	100	5/5	100	0
10 Athens	3/4	75	5/5	100	0
Georgia Total	300/347	86	312/338	92	2

*patients who died or moved outside the U.S. during TB treatment , or who are not eligible for 12 months TB treatment (rifampin resistant TB, meningeal TB, patients < 15 yrs, old with miliary TB), are not included in calculation

Table 7. Sputum Smear Positive (SSP) Cases with Contacts Identified by Health District, Georgia, 2009-2010

HEALTH DISTRICT	2009		2010	
	No. SSP Cases with Contacts Identified / No. SSP Cases	%	No. SSP Cases with Contacts Identified / No. SSP Cases	%
1.1 Rome	5/5	100	4/4	100
1.2 Dalton	7/7	100	4/4	100
2.0 Gainesville	5/5	100	7/7	100
3.1 Cobb	6/6	100	9/9	100
3.2 Fulton	37/37	100	27/27	100
3.3 Clayton	3/3	100	4/4	100
3.4 Lawrenceville	18/18	100	17/17	100
3.5 DeKalb	14/14	100	19/19	100
4.0 LaGrange	7/7	100	5/5	100
5.1 Dublin	3/3	100	2/2	100
5.2 Macon	2/2	100	3/3	100
6.0 Augusta	11/11	100	10/10	100
7.0 Columbus	11/11	100	8/8	100
8.1 Valdosta	1/1	100	4/4	100
8.2 Albany	9/9	100	5/5	100
9.1 Coastal	10/10	100	7/7	100
9.2 Waycross	3/3	100	1/1	100
10 Athens	1/1	100	3/3	100
Georgia Total	153/153	100	139/139	100

Table 8. Completely Evaluated Contacts of Sputum Smear Positive Cases by Health District, Georgia, 2009-2010

HEALTH DISTRICT	2009		2010	
	No. Contacts that were Completely Evaluated / No. Contacts Identified	%	No. Contacts that were Completely Evaluated / No. Contacts Identified	%
1.1 Rome	47/54	87	51/52	98
1.2 Dalton	85/92	92	32/36	89
2.0 Gainesville	14/21	67	41/50	82
3.1 Cobb	43/50	86	42/51	82
3.2 Fulton	532/638	83	253/350	72
3.3 Clayton	590/658	90	51/55	93
3.4 Lawrenceville	97/175	55	111/128	87
3.5 DeKalb	84/110	76	1055/1328	79
4.0 LaGrange	54/73	74	231/270	86
5.1 Dublin	44/49	90	69/71	97
5.2 Macon	1/7	14	29/40	72
6.0 Augusta	205/262	78	72/84	86
7.0 Columbus	149/198	75	47/67	70
8.1 Valdosta	5/5	100	15/16	94
8.2 Albany	251/380	66	92/113	81
9.1 Coastal	42/61	69	30/36	83
9.2 Waycross	20/20	100	--	--
10 Athens	5/8	62	26/29	90
Georgia Total	2268/2861	79	2247/2776	81

Table 9. Contacts with Latent TB Infection (LTBI) exposed to Sputum Smear Positive Cases by Health District, Georgia, 2009-2010

HEALTH DISTRICT	2009		2010	
	No. Contacts with LTBI/ No. Contacts Completely Evaluated	%	No. Contacts with LTBI/ No. Contacts Completely Evaluated	%
1.1 Rome	13/47	28	21/51	41
1.2 Dalton	41/85	48	7/32	22
2.0 Gainesville	7/14	50	12/41	29
3.1 Cobb	18/43	42	27/42	64
3.2 Fulton	83/532	16	41/253	16
3.3 Clayton	40/590	7	6/51	12
3.4 Lawrenceville	60/97	62	42/111	38
3.5 DeKalb	37/84	44	107/1055	10
4.0 LaGrange	13/54	24	15/231	6
5.1 Dublin	13/44	30	11/69	16
5.2 Macon	1/1	100	6/29	21
6.0 Augusta	31/205	15	35/72	49
7.0 Columbus	35/149	24	10/47	21
8.1 Valdosta	1/5	20	9/15	60
8.2 Albany	68/251	27	20/92	22
9.1 Coastal	18/42	43	12/30	40
9.2 Waycross	6/20	30	--	--
10 Athens	2/5	40	21/26	81
Georgia Total	486/2268	21	402/2247	18

Table 10. Contacts with LTBI exposed to Sputum Smear Positive Cases started on LTBI Treatment by Health District, Georgia, 2009-2010

HEALTH DISTRICT	2009		2010	
	No. Infected Contacts on LTBI Treatment / No. Infected Contacts	%	No. Infected Contacts on LTBI Treatment / No. Infected Contacts	%
1.1 Rome	5/13	38	14/21	67
1.2 Dalton	32/41	78	7/7	100
2.0 Gainesville	7/7	100	9/12	75
3.1 Cobb	13/18	72	19/27	70
3.2 Fulton	42/83	51	30/41	73
3.3 Clayton	21/40	52	1/6	17
3.4 Lawrenceville	39/60	65	21/42	50
3.5 DeKalb	26/37	70	80/107	75
4.0 LaGrange	13/13	100	13/15	87
5.1 Dublin	8/13	62	10/11	91
5.2 Macon	0/1	0	5/6	83
6.0 Augusta	10/31	32	29/35	83
7.0 Columbus	20/35	57	7/10	70
8.1 Valdosta	1/1	100	6/9	67
8.2 Albany	49/68	72	12/20	60
9.1 Coastal	9/18	50	8/12	67
9.2 Waycross	5/6	83	--	--
10 Athens	0/2	0	19/21	90
Georgia Total	300/486	62	290/402	72

Table 11. LTBI Treatment Completion of Infected Contacts exposed to Sputum Smear Positive Cases by Health District, Georgia, 2009-2010

HEALTH DISTRICT	2009			2010		
	No. Contacts that Completed LTBI Treatment / Contacts Treated	%	No. Contacts with Missing Tx data	No. Contacts that Completed LTBI Treatment / Contacts Treated	%	No. Contacts with Missing Tx data
1.1 Rome	2/5	40	0	6/14	43	0
1.2 Dalton	24/32	75	0	3/7	43	0
2.0 Gainesville	4/7	57	0	6/9	67	0
3.1 Cobb	10/13	77	0	10/19	53	0
3.2 Fulton	29/40	72	2	19/30	63	0
3.3 Clayton	6/7	86	14	1/1	100	0
3.4 Lawrenceville	21/38	55	1	14/21	67	0
3.5 DeKalb	14/19	74	7	60/80	75	0
4.0 LaGrange	4/13	31	0	9/13	69	0
5.1 Dublin	2/8	25	0	4/9	44	2
5.2 Macon	--	--	0	4/5	80	0
6.0 Augusta	7/10	70	0	12/29	41	0
7.0 Columbus	12/20	60	0	4/7	57	0
8.1 Valdosta	--	--	1	4/6	67	0
8.2 Albany	36/49	74	0	7/12	58	0
9.1 Coastal	5/9	56	0	4/8	50	0
9.2 Waycross	4/5	80	0	--	--	--
10 Athens	--	--	0	2/19	10	0
Georgia Total	180/275	66	25	169/289	58	2

Table 12. Reasons Why Infected Contacts of Sputum Smear Positive cases Stopped LTBI Treatment, Georgia, 2009-2010

Reasons for Stopping LTBI Therapy	2009 N= 275		2010 N= 289	
	No.	%	No.	%
Completed Therapy	180	66	169	58
Chose to Stop	39	14	48	17
Lost to Follow-Up	29	10	40	14
Provider Decision	6	2	7	2
Moved	16	6	12	4
Adverse Reactions	4	2	12	4
Active TB Developed	0	0	0	0
Death	1	0.4	1	0.4

Figure 1. TB Cases and Case Rates Georgia,1982-2011

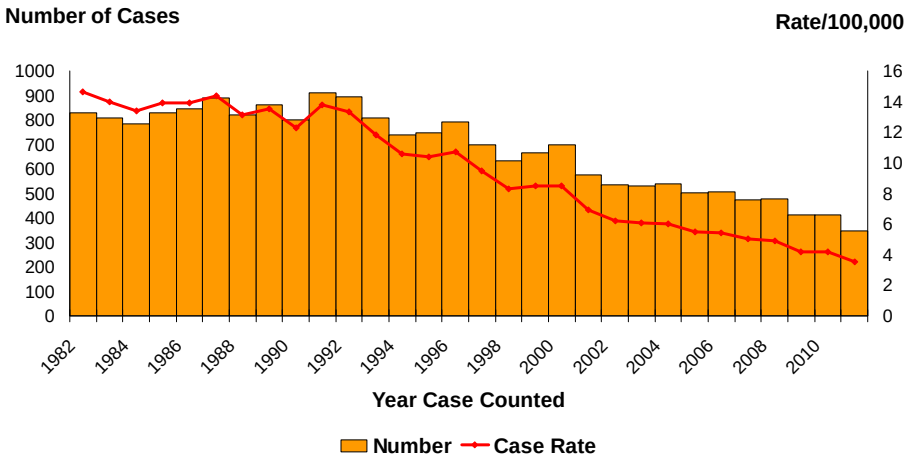


Figure 2. Number of TB Cases by Health Districts Georgia, 2011

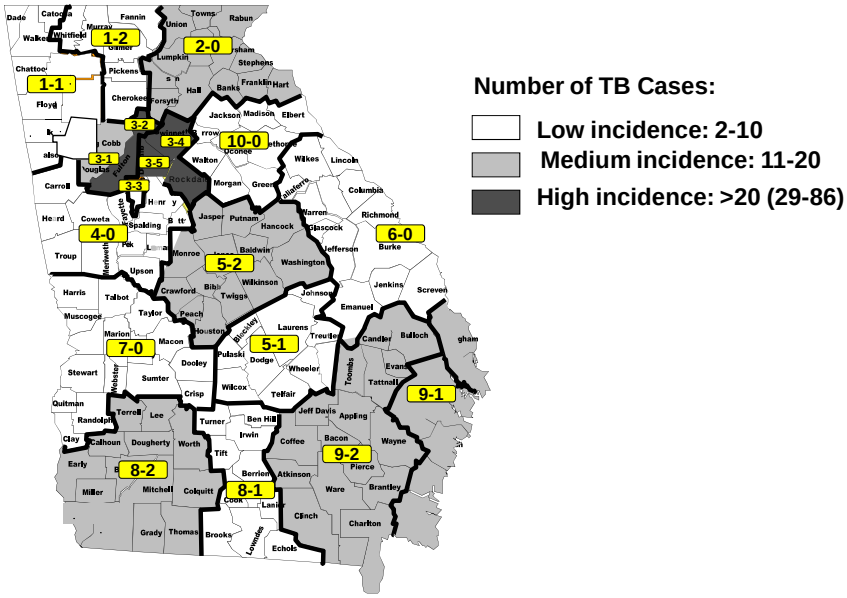


Figure 3. TB Case Rates by Health Districts
Georgia, 2011

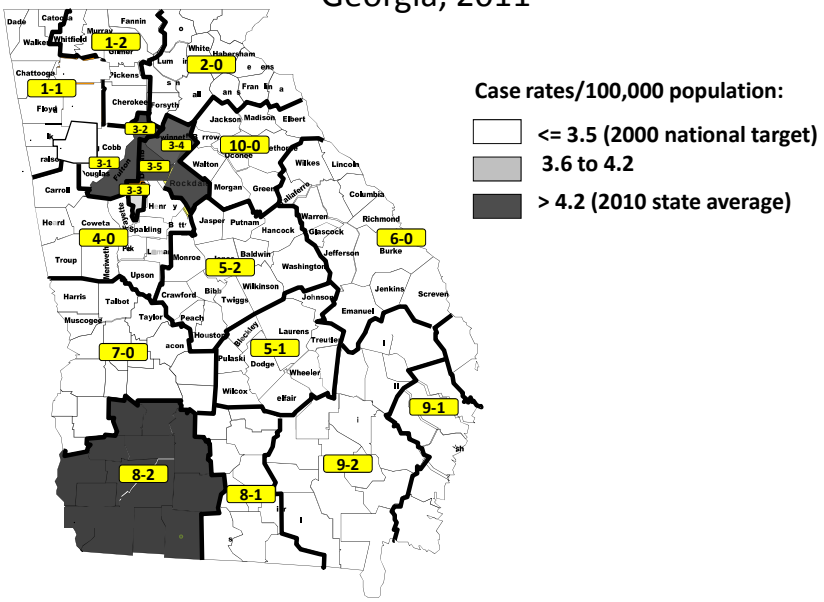


Fig. 4, TB Cases by Age Group and Sex
Georgia, 2011

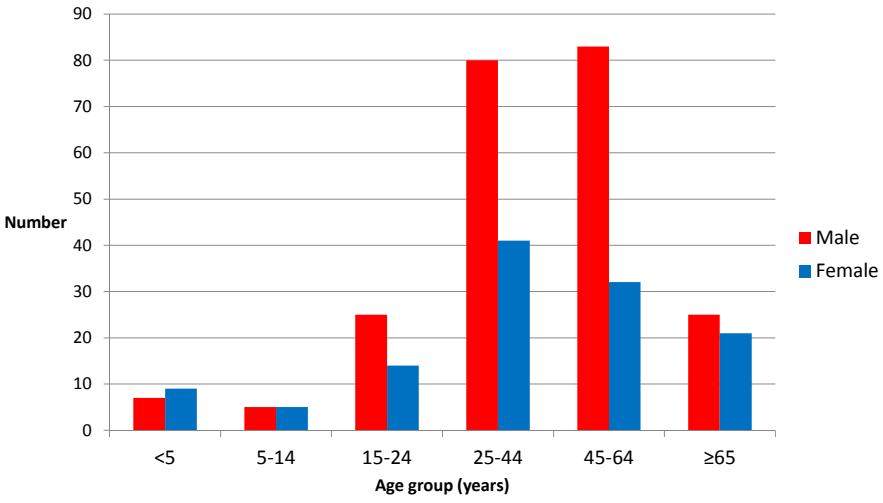


Figure 5. TB Case Rates* by Age Group
2007-2011, Georgia

Age Group	2007	2008	2009	2010	2011
< 5 yrs.	3.5	4.5	2.3	2	2.3
5-14 yrs.	0.8	0.6	0.5	0.9	0.7
15-24 yrs.	4.3	3.9	4.1	3.3	2.8
25-44 yrs.	6	6.3	5.1	5	4.4
45-64 yrs.	6	6.6	5.4	5.8	4.6
65+ yrs.	7.4	5.4	5.7	5.5	4.3

***Rates are per 100,000 population**

Figure 6. TB Cases by Race/Ethnicity
Georgia, 2000 and 2011

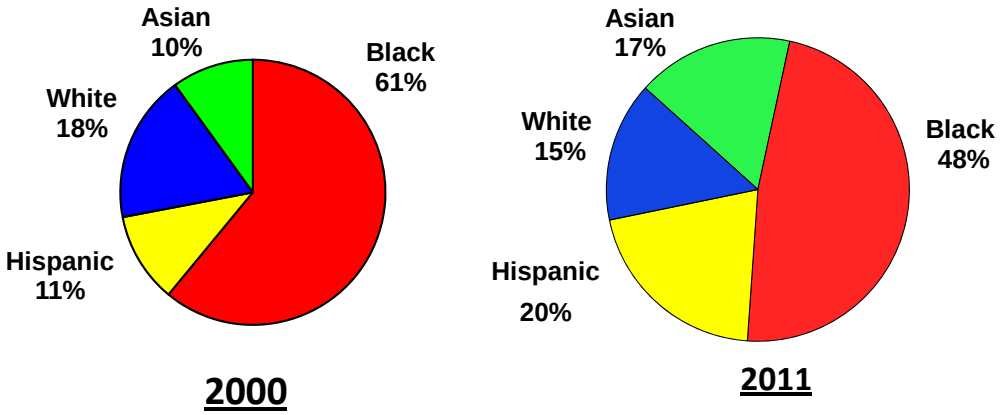


Figure 7. TB Case Rates* by Race/Ethnicity
Georgia, 2007-2011

Race/ Ethnicity	2007	2008	2009	2010	2011
Asian, non-Hispanic	21.5	27.2	29.7	24.1	16.8
Hispanic, All races	12.9	11.8	11.2	8.2	7.6
Black, non-Hispanic	8.3	7.8	6.2	7.1	5.3
White, non-Hispanic	1.2	1.2	1.2	1	0.9

***Rates are per 100,000 population**

Figure 8. TB Case Rates in non-Hispanic Blacks
and Whites, Georgia, 1993-2011

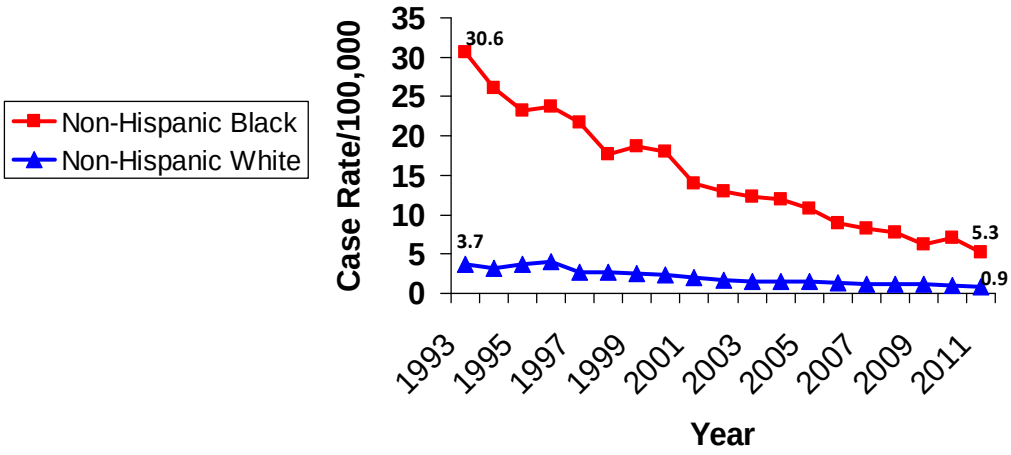


Figure 9. US-born and Foreign-born TB Cases Georgia,1993-2011

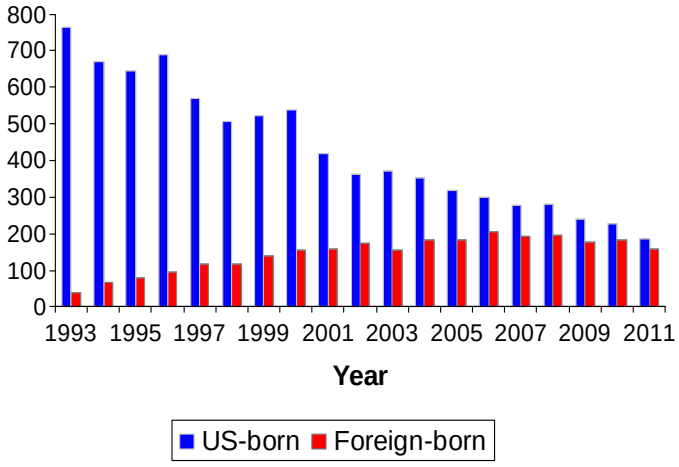


Figure 10. Percent of Foreign-born TB Cases (n=159) by Country of Origin, Georgia, 2011

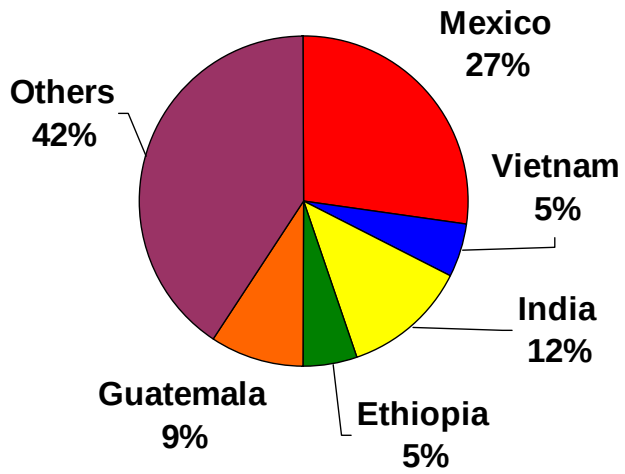


Figure 11. HIV Status of TB Cases
Georgia,1993-2011

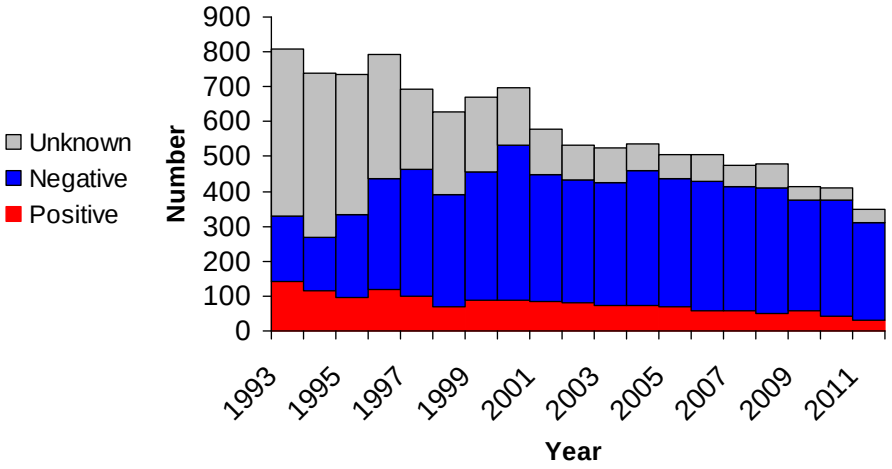


Figure 12. TB in Other High-Risk Populations
Georgia, 2007-2011

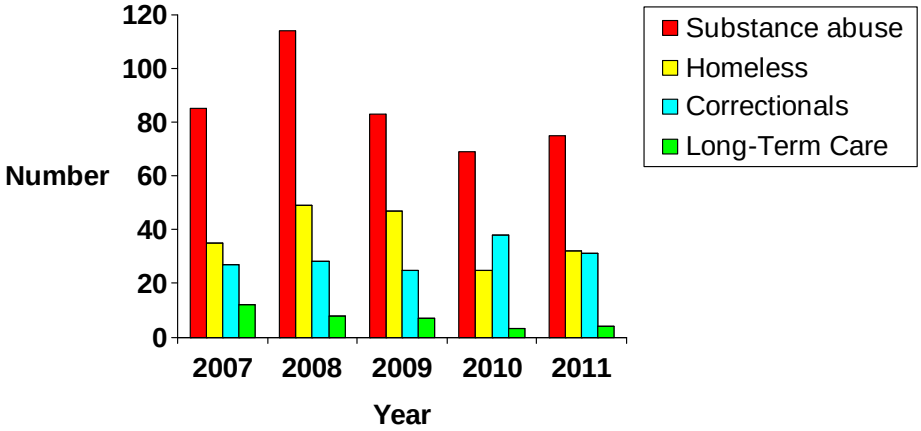


Figure 13. Primary Drug Resistance and MDR-TB
Georgia, 2007-2011

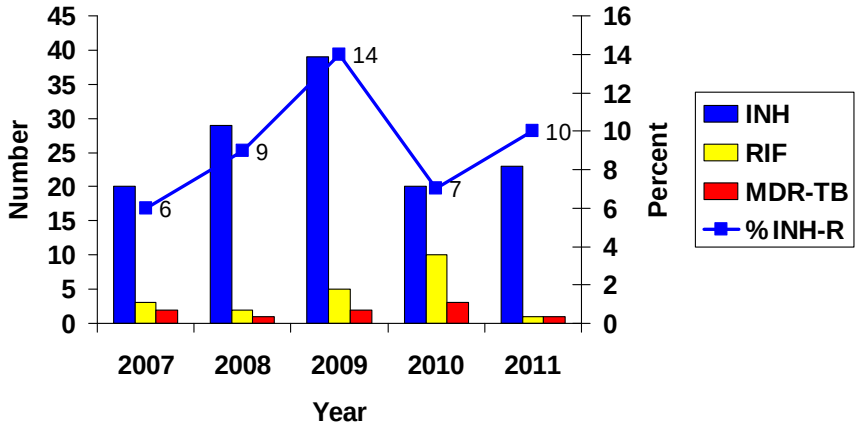
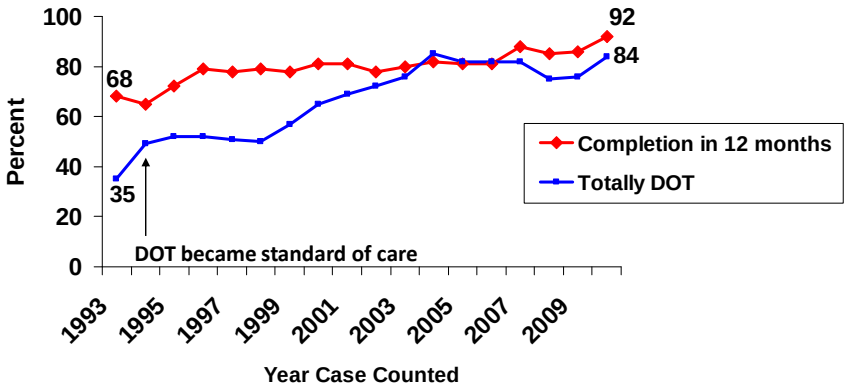
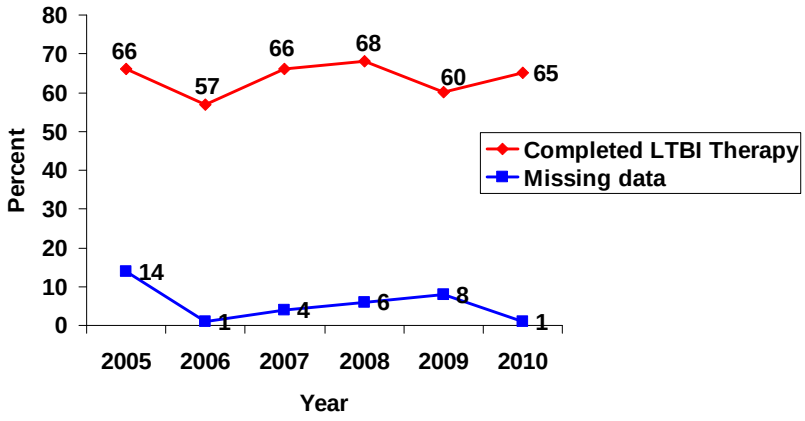


Figure 14. TB Treatment Completion within 12 months
and Directly Observed Therapy (DOT)
Georgia, 1993-2010*



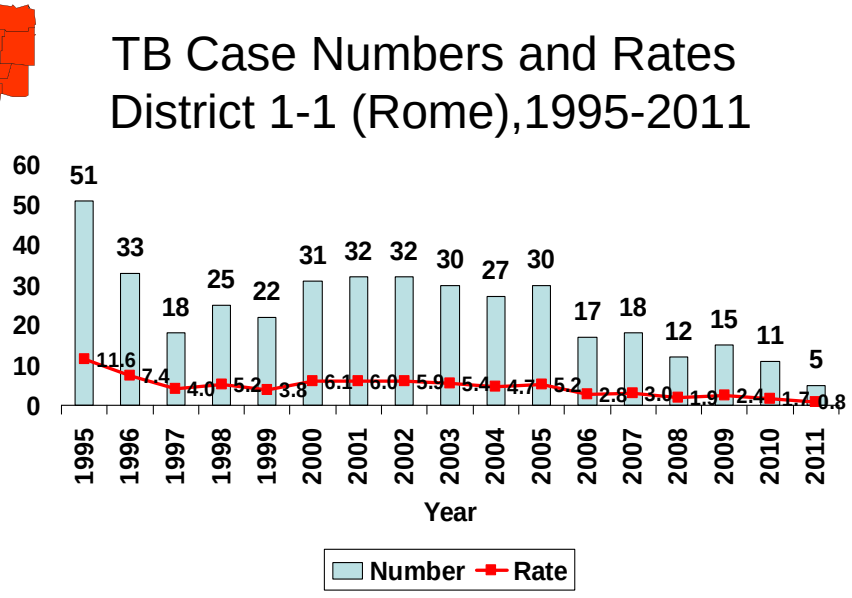
*In 2009, CDC changed the calculation for TB treatment completion within 12 months to exclude TB cases who moved out of the U.S. while on TB treatment.

Figure 15. Completion of Latent TB Infection (LTBI) Therapy among all contacts of TB cases, Georgia, 2005-2010

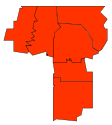


Tuberculosis Morbidity Trends by Health District

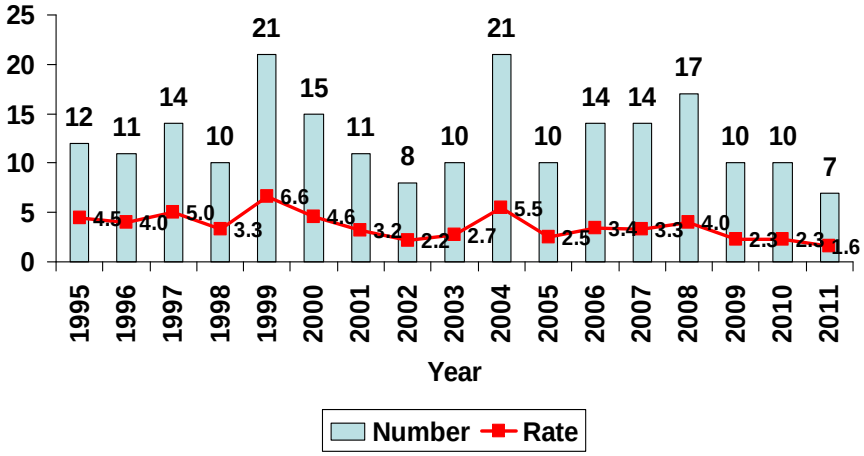
Georgia, 1995-2011



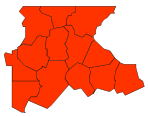
Rates are per 100,000 population
Source: GA TB surveillance database



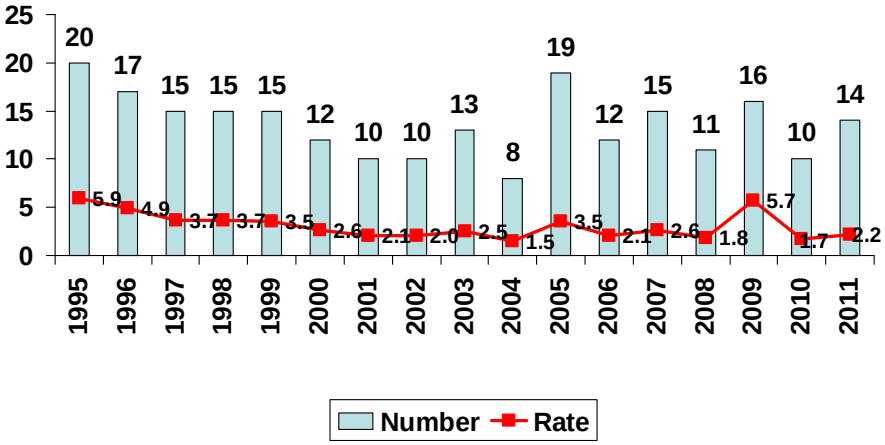
TB Case Numbers and Rates
District 1-2 (Dalton),1995-2011



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

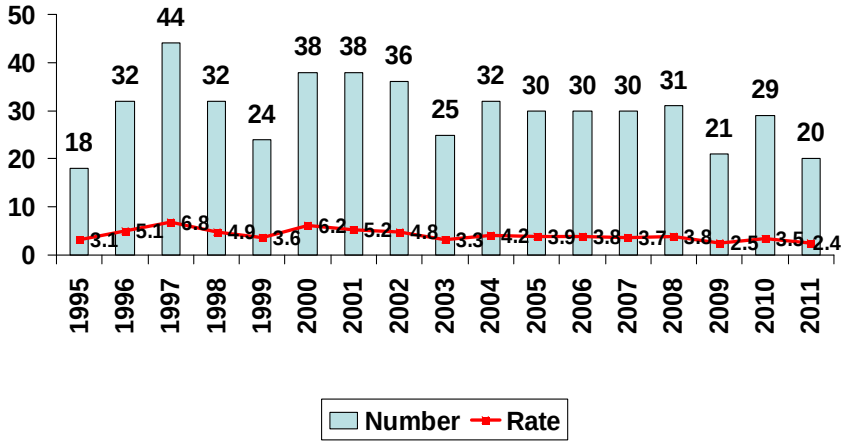


TB Case Numbers and Rates
District 2 (Gainesville),1995-2011



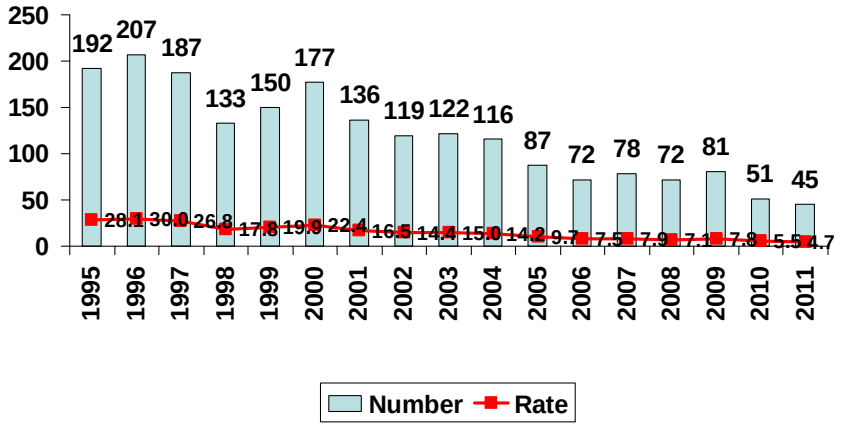
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates District 3-1 (Cobb),1995-2011



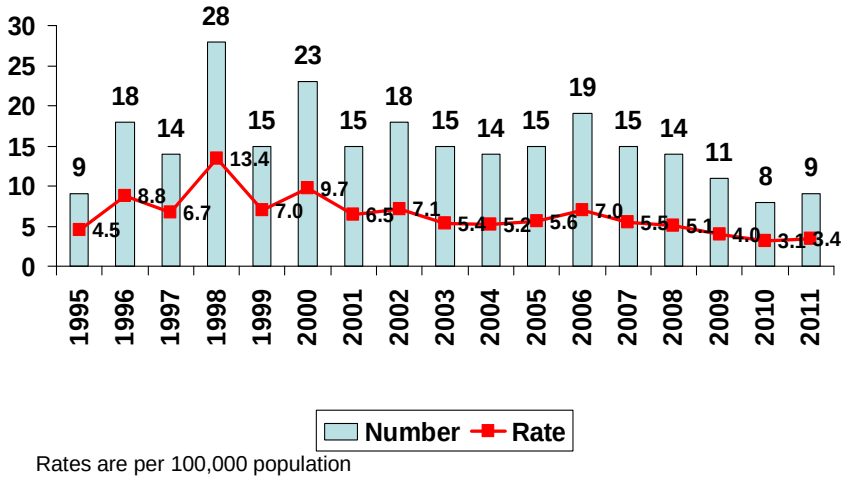
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates District 3-2 (Fulton),1995-2011



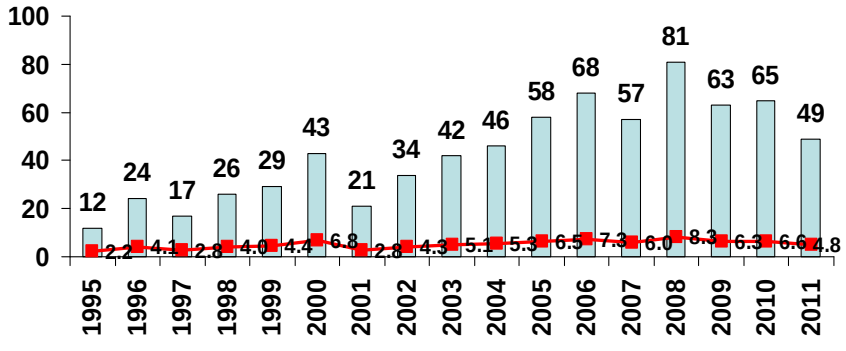
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates
District 3-3 (Clayton),1995-2011



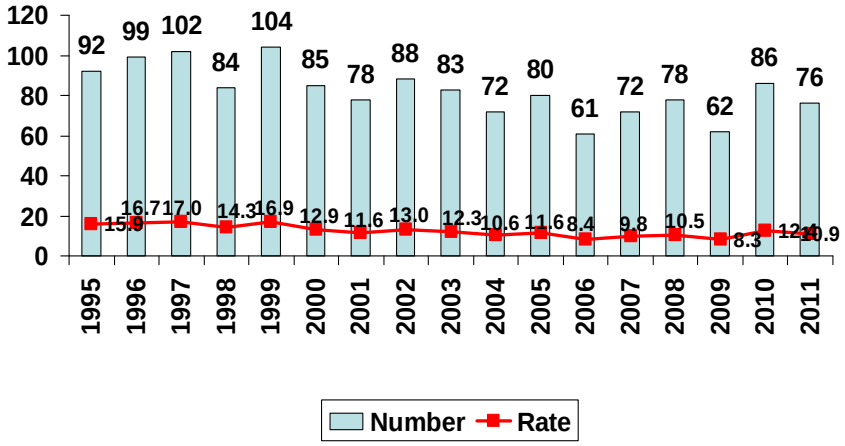
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates
District 3-4 (Lawrenceville),1995-2011



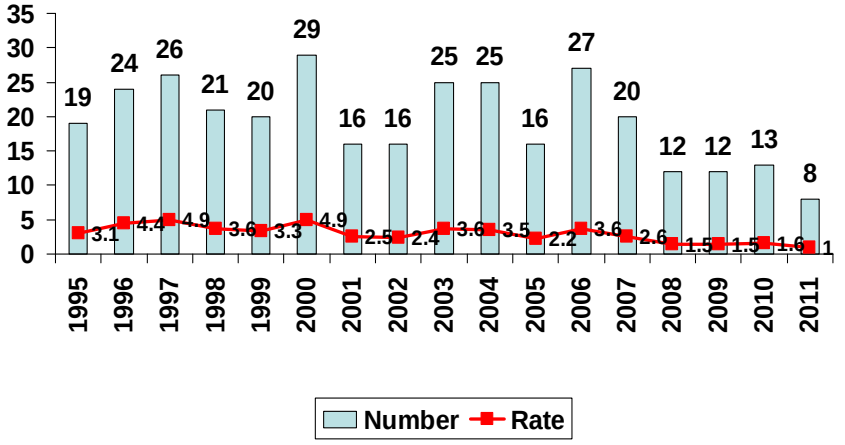
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates District 3-5 (DeKalb),1995-2011



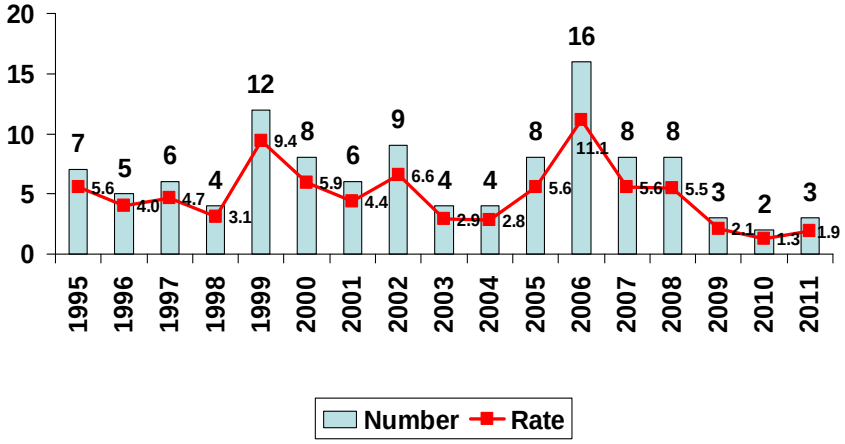
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates District 4 (LaGrange),1995-2011



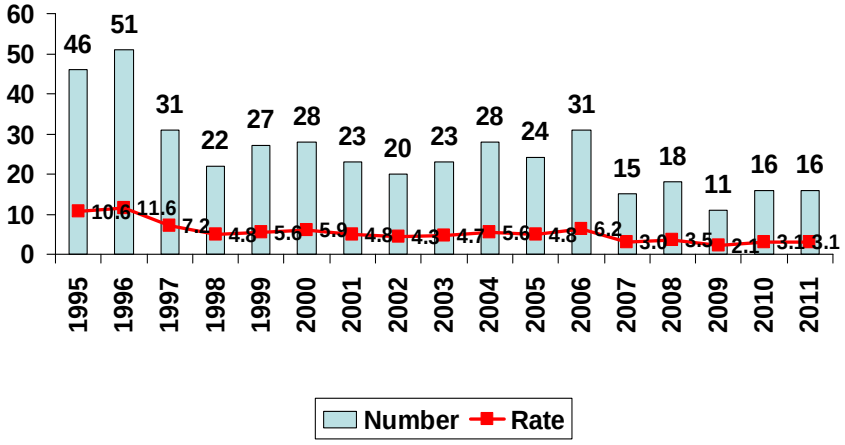
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates District 5-1 (Dublin),1995-2011



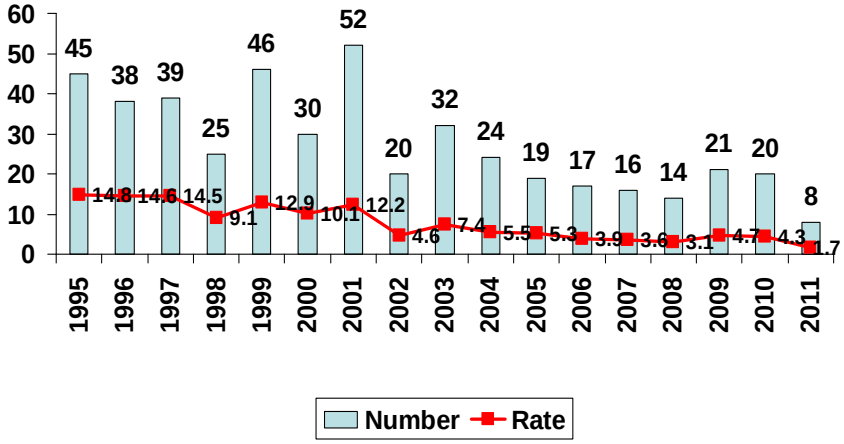
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates District 5-2 (Macon),1995-2011



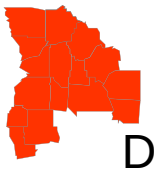
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates District 6 (Augusta)*,1995-2011

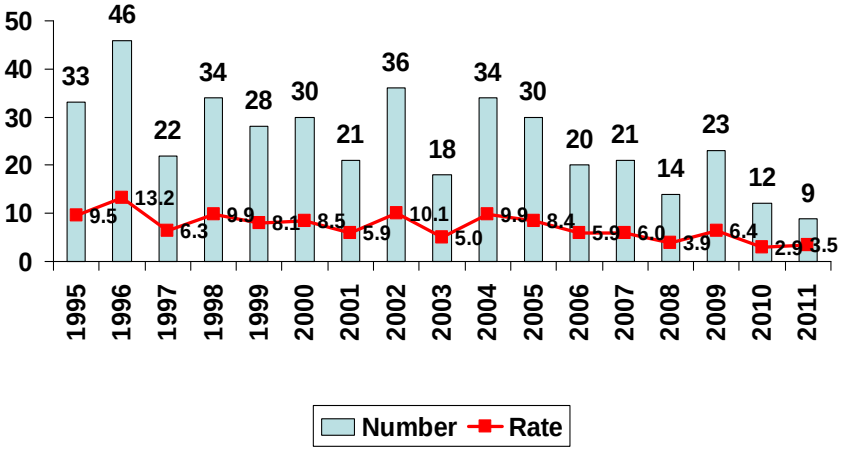


Rates are per 100,000 population
Source: GA TB surveillance database

*Augusta State Medical Prison cases not included

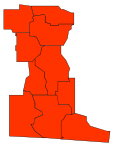


TB Case Numbers and Rates District 7 (Columbus)*,1995-2011

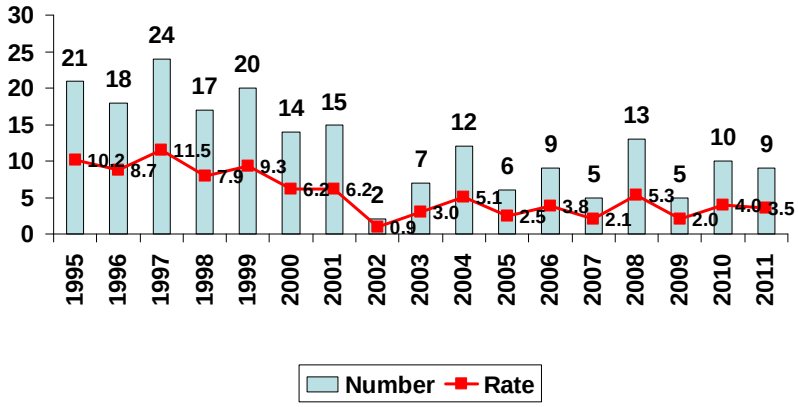


Rates are per 100,000 population
Source: GA TB surveillance database

*ICE Detention Center cases not included

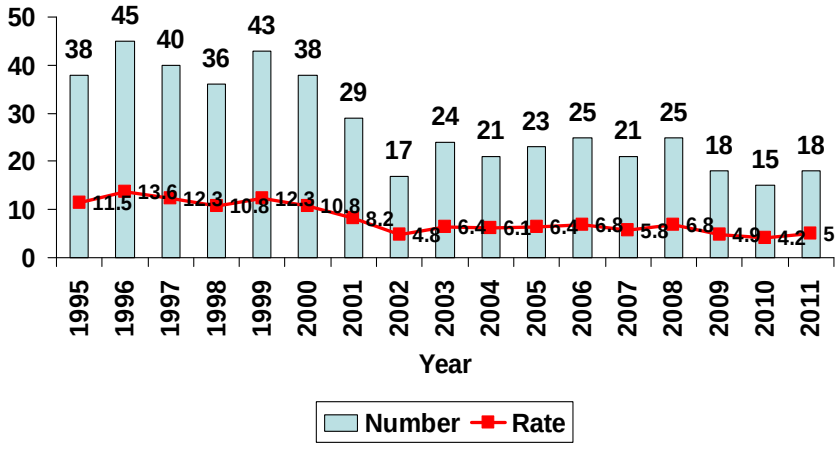


TB Case Numbers and Rates District 8-1 (Valdosta),1995-2011



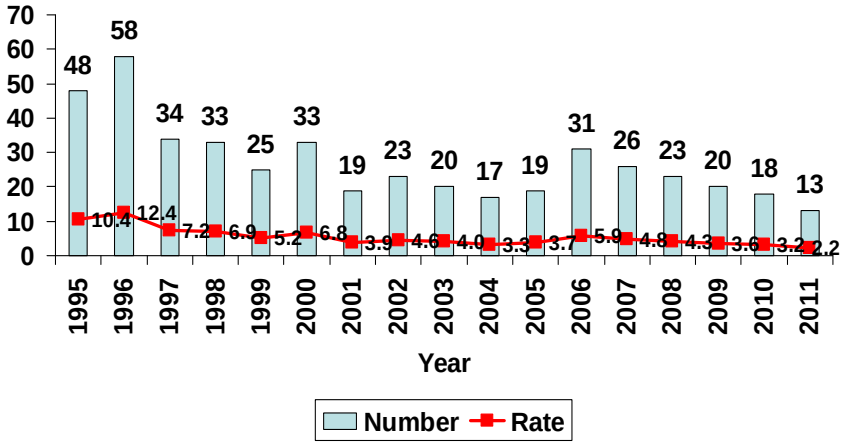
Rates are per 100,000 population
Source: GA TB surveillance database

TB Case Numbers and Rates District 8-2 (Albany),1995-2011

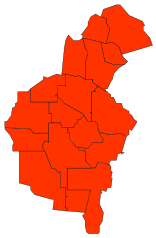


Rates are per 100,000 population
Source: GA TB surveillance database

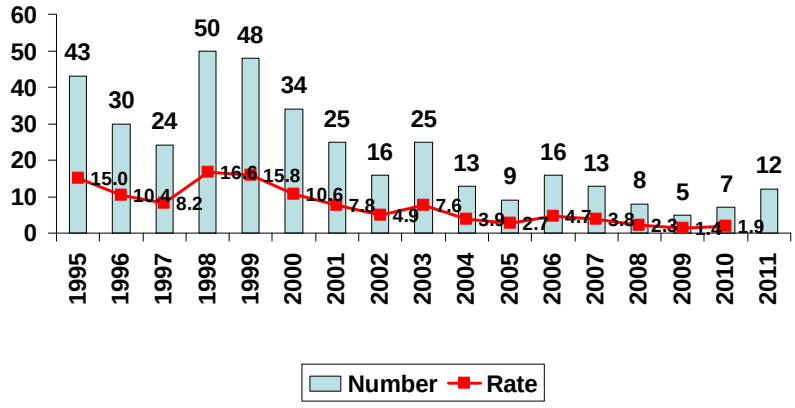
TB Case Numbers and Rates District 9-1 (Coastal),1995-2011



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

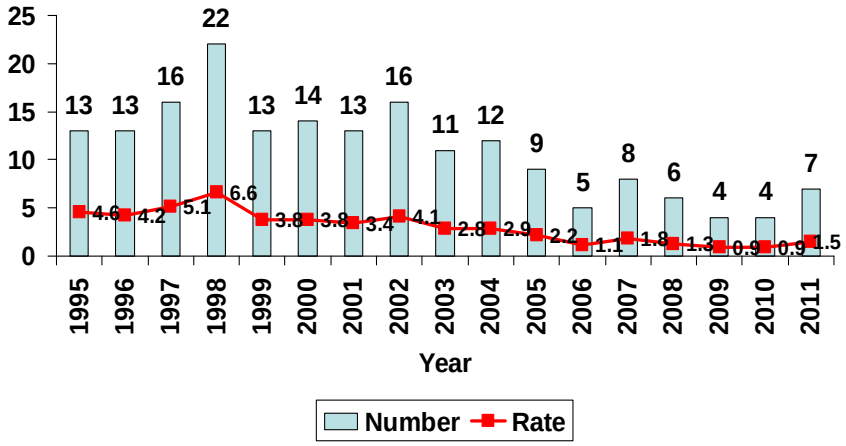


TB Case Numbers and Rates District 9-2 (Waycross),1995-2011



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

TB Case Numbers and Rates
District 10 (Athens),1995-2011



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