### 2023

### ANNUAL TUBERCULOSIS SURVEILLANCE REPORT

#### GEORGIA DEPARTMENT OF PUBLIC HEALTH



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### DATA SOURCES

1) Surveillance data were obtained from the State Electronic Notifiable Disease Surveillance System (SENDSS) as of September 19<sup>th</sup>, 2024 2) Census data were obtained from the U.S. Census Bureau via <u>https://oasis.state.ga.us/oasis/webguery/gryPopulation.aspx</u>.

### SUGGESTED CITATION

Georgia Department of Public Health, 2023 Georgia Tuberculosis Surveillance Report, Atlanta, Georgia, November 2024.

### EXECUTIVE SUMMARY

A total of 246 tuberculosis (TB) cases were reported in Georgia in 2023, representing a 5.4% decrease from 260 cases in 2022. The TB case rate (number of TB cases per 100,000 persons) decreased to 2.2 in 2023 from 2.4 in 2022 (Figure 1). Two cases were uncounted after the 2022 surveillance report was published.

In 2023, TB incidence by health district ranged from 0.0 cases per 100,000 persons in District 5-1 (Dublin) to 6.8 cases per 100,000 persons in District 3-5 (DeKalb) (Table 2). Five health districts (Districts 2-0, 3-2, 3-4, 3-5, and 7-0) reported a TB case rate higher than the overall state incidence in 2023 (Figure 4). Three counties (Dekalb, Fulton, and Gwinnett) reported >25 TB cases each in 2023, accounting for 45.9% of reported cases statewide (Table 1).

Of the 246 TB cases reported in Georgia in 2023, 140 (56.9%) were non-U.S.-born (Figure 8). The top four countries of origin for non-U.S.-born persons reported with TB disease in Georgia were Mexico, India, Guatemala, and Vietnam (Figure 9). TB cases among persons born in these four countries accounted for 43.6% of cases among non-U.S.-born persons in Georgia.

HIV status was reported for 89.0% of Georgia TB cases in 2023. Among the 219 patients with a known HIV status, 8.2% were HIV-positive (Figure 10). Persons living in congregate settings are at high risk for TB exposure. In 2023, 18 (7.3%) of Georgia's total TB cases experienced homelessness in the year before diagnosis and 5 (2.0%) were diagnosed while residing in a correctional facility (Figure 11). In 2023, there were two cases of multidrug-resistant TB (MDR-TB or TB resistant to at least isoniazid and rifampin) diagnosed in Georgia.

The latest year with completed TB contact investigation data was 2022. Among the 1,621 identified contacts of TB cases reported in 2022 in Georgia, 1,245 (76.8%) completed a medical evaluation for TB. Of the 324 contacts diagnosed with latent TB infection (LTBI), 199 (61.4%) started LTBI treatment and of those, 165 (82.9%) completed LTBI treatment.

From 2022 to 2023 TB incidence in Georgia decreased by 8.3% to 2.2 cases per 100,000 (Figure 2). TB incidence in the United States increased by 16.0% to 2.9 cases per 100,000 (Figure 2) from 2022.

Epidemiologic modeling by the U.S. Centers for Disease Control and Prevention (CDC) projects that the goal of TB elimination will not be attained in this century with the current rates of decline. Current program strategies such as early identification of TB cases, completion of TB treatment by directly observed therapy, and contact investigation should be maintained, but newer strategies such as targeted TB testing among high-risk individuals (e.g., persons born in countries with a high prevalence of TB and persons who live or work in high-risk congregate settings) and treating LTBI should be implemented to accelerate progress toward TB elimination.

# TUBERCULOSIS 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. The TB Epidemiology Section of the Georgia Department of Public Health (GDPH) is responsible for the systematic collection of all reported TB cases in the state. Immediate reporting of TB cases enables public health staff to follow up with patients, administer directly observed therapy (DOT), monitor TB treatment until completion, evaluate and screen individuals exposed to a TB case, and control TB outbreaks.

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 GDPH, or by calling, mailing, or faxing a report to public health authorities. Hospital infection control personnel, 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 can register to become a SENDSS user by logging into the system's website (https://sendss.state.ga.us) and selecting TB from the list of reportable diseases.

Public health authorities collect demographic, clinical, and risk factor data about reported TB cases and their contacts. Cases are counted in the jurisdiction in which they reside at the time of diagnosis. Case counts may change slightly as information is verified. These data are analyzed to describe the distribution of the disease, trends in morbidity, mortality, drug resistance patterns, treatment outcomes, clusters of TB cases, and infection rates among high-risk groups and contacts to TB cases in Georgia. These data are used at the state and local level 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.

### TUBERCULOSIS CASE DEFINITIONS FOR PUBLIC HEALTH SURVEILLANCE

GDPH utilizes the 2009 Council of State and Territorial Epidemiologists (CSTE) case definition for tuberculosis (Position Statement 09-ID-65) that can be accessed at:

https://ndc.services.cdc.gov/case-definitions/tuberculosis-2009/

#### Clinical Description

A chronic bacterial infection caused by Mycobacterium tuberculosis, usually characterized pathologically by the formation of granulomas. The most common site of infection is the lung, but other organs may be involved.

#### **Clinical Criteria**

A case that meets all of the following criteria:

- A positive tuberculin skin test or positive interferon gamma release assay for M. tuberculosis
- Signs and symptoms compatible with TB (abnormal chest imaging study or clinical evidence of current disease)
- Treatment with two or more anti-TB medications
- A completed diagnostic evaluation

#### Laboratory Criteria for Diagnosis

- Isolation of *M. tuberculosis* complex on a culture from a clinical specimen, or
- Demonstration of *M. tuberculosis* complex from a clinical specimen by nucleic acid amplification test

#### **Case Classification**

#### CONFIRMED

A case that meets the clinical case definition or is laboratory confirmed.

# EPIDEMIOLOGY OF TUBERCULOSIS IN GEORGIA

Georgia reported 246 new tuberculosis (TB) cases in 2023. This represents an 5.4% decrease from the 260 TB cases reported in 2022 (Figure 1). The number of TB cases in Georgia has decreased by 53.8% since 2003 (Figure 1). The TB incidence rate in Georgia decreased to 2.2 cases per 100,000 persons in 2023 from 2.4 cases per 100,000 persons in 2022. This is lower than the national incidence rate of 2.9 cases per 100,000 population in 2023 (Figure 2). According to the CDC, Georgia ranked 7th highest in the United States for the number of new TB cases and ranked 19th highest for the TB incidence rate (per 100,000 population) among the 50 reporting states in 2023.

### GEOGRAPHIC DISTRIBUTION

Among the 159 counties in Georgia, three counties in the metropolitan Atlanta area reported the highest number of TB cases in 2023: DeKalb (52 cases), Fulton (26 cases), and Gwinnett (35 cases) (Table 1). These three counties accounted for 45.9% of all TB cases reported in Georgia in 2023. Figure 3a shows the geographic distribution of TB cases by county in 2023.

Each of Georgia's 18 Health Districts has oversight responsibility for public health in the counties it serves. In 2023, District 3-5 (DeKalb) had the highest TB incidence rate with 6.8 cases per 100,000 population, followed by District 7 (Columbus) with 3.3 cases per 100,000 population, District 3-4 (Lawrenceville) with 3.0 cases per 100,000 population, and District 3-2 (Fulton) with 2.4 cases per 100,000 population (Table 2).

### SEX AND AGE DISTRIBUTION

In 2023, TB cases in Georgia occurred predominantly among males (154 cases, 62.6%), compared to females (92 cases, 37.4%). When stratified by age, the highest proportion of TB cases occurred among persons between the ages of 25-44 (80 cases, 32.5%) (Figure 5). Among persons 25-44 years old, 45 cases (56.3%) were male, and 35 cases (43.8%) were female (Figure 5). The 65+ age group had the highest TB incidence rate (3.3 per 100,000), while the lowest incidence rate was among children 5-14 years old (0.3 per 100,000) (Table 6). The TB incidence rate for children younger than 5 years of age, a group more likely to develop life-threatening forms of TB disease, stayed about the same in 2023 at 1.6 per 100,000 as compared to 1.7 per 100,000 in 2022. Young children are more likely than older children and adults to have TB spread through their bloodstream and cause complications and deadlier forms of TB disease, such as TB meningitis or disseminated TB.

### RACE/ETHNICITY DISTRIBUTION AND TB DISPARITIES

TB disproportionately affects racial/ethnic minorities in Georgia. In 2023, non-Hispanic Blacks, Hispanics, and non-Hispanic Asians accounted for 45.9%, 25.2%, and 18.7% of TB cases in Georgia (Figure 6), respectively, but only represented 32.1%, 11.1%, and 4.8% of Georgia's population, respectively. Non-Hispanic whites constituted 10.2% of TB cases in 2023. Non-Hispanic Asians had the highest TB incidence rate among race/ethnic groups (8.8 per 100,000), followed by Hispanics (5.0 per 100,000), non-Hispanic Blacks (3.2 per 100,000), and non-Hispanic Whites (0.5 per 100,000) (Table 7). The TB incidence rate among non-Hispanic

Black persons represents an 73.8% decrease from the non-Hispanic Black TB incidence rate in 2003 (12.2 per 100,000). However, the TB incidence rate among non-Hispanic Blacks was still over six times higher than the TB incidence rate among non-Hispanic Whites in Georgia in 2023 (Table 7).

# HIGH-RISK POPULATIONS

### NON-U.S.-BORN PERSONS

TB among persons born outside of the United States accounted for 57.1% of TB cases with a known country of origin in Georgia in 2023. Half of non-U.S.-born cases reported in 2023 came from Mexico (15.7%), India (10.0%), Guatemala (10.0%), Vietnam (7.9%), and Ethiopia (6.4%)—all countries where TB is an endemic disease (Figure 9). Among the 139 non-U.S.-born cases in 2023 with a known year of arrival, 66 (47.4%) were diagnosed in the first five years of their arrival in the United States. This has increased from the 63 (36.0%) non-U.S.-born cases of their arrival in 2022.

In 2023, two counties reported more than half (50.7%) of the total number of non-U.S.-born TB cases in Georgia: DeKalb County (38 cases) and Gwinnett County (33 cases).

### PERSONS WITH HIV CO-INFECTION

HIV testing should be performed for all TB patients, as TB treatment may change when antiretroviral therapy for HIV is given concurrently. Active TB often accelerates the natural progression of HIV infection. Of the 246 TB cases reported in 2023, 7.3% were HIV-positive, compared to 6.1% in 2022 (Figure 10). Among the 18 TB cases with HIV co-infection in 2023, 55.6% were non-Hispanic Black, 66.7% were male, and 38.9% were between 25 and 44 years old.

HIV status was reported for 89.0% of TB cases in 2023. In the high-risk age group of adults 25-44 years of age, HIV status was reported for 96.3% of patients in 2023, compared to 97.7% in 2022. Of the 3 TB cases whose HIV status was not reported, 2 refused testing (66.7%) and 1 (33.3%) died.

### PERSONS IN CONGREGATE SETTINGS AND PERSONS WITH SUBSTANCE USE

Persons residing in crowded congregate settings such as homeless shelters, prisons, and nursing homes are at risk for acquiring TB. In 2023, 18 (7.3%) TB cases in Georgia experienced homelessness in the year before TB diagnosis, 5 (2.0%) were residents of correctional facilities at the time of diagnosis, and 3 (1.2%) were residents of long-term care facilities (Table 3, Figure 11). Of the 5 TB cases incarcerated in correctional facilities, 4 (80%) were under custody of Immigration and Customs Enforcement (ICE) detention centers and 1 (20%) was an inmate of a federal prison.

Substance use disorder is the most reported behavioral risk factor among patients with TB in the United States. TB patients who use substances often experience treatment failure and remain infectious longer because treatment failure presumably extends periods of infectiousness. In Georgia, 39 (15.9%) TB cases in 2023 had reported use of either illicit drugs or alcohol (Table 3, Figure 11).

### TB IN CHILDREN

TB in children is considered a sentinel public health event as it often indicates recent transmission from an infectious adult case. Additionally, potentially lethal forms of TB disease, such as TB meningitis or disseminated TB, can develop in very young children. In 2023, children younger than 15 years old comprised 5.7% of TB cases in Georgia: 10 cases (1.6 per 100,000) were reported in children younger than 5 years old and 4 cases (0.3 per 100,000) were reported in children 5-14 years old (Table 6, Figure 5). There were four cases of TB meningitis in children younger than 15 years old in Georgia in 2023.

Persons with latent tuberculosis infection (LTBI) are infected with TB bacteria, but do not have clinical signs and symptoms of TB disease. In Georgia, LTBI in children younger than six years old is a reportable disease. When LTBI in a child less than six years of age is reported, the local health department will initiate a contact investigation to identify the source of infection, recommend treatment, follow up with the child to ensure completion of treatment, and monitor for development of active TB disease. Early identification and treatment of TB infection in children can prevent progression to active disease and aid in identifying previously undiagnosed and untreated cases of active TB.

In 2023, 8 children younger than six years old were reported to have LTBI in Georgia. Eight (100%) were identified by contact investigations performed by county health department staff.

# DIAGNOSIS AND TREATMENT OUTCOMES

#### INITIAL DIAGNOSIS, TREATMENT, AND DIRECTLY OBSERVED THERAPY

In Georgia, most TB cases are initially diagnosed in a hospital or clinic and are followed up by county health departments after discharge to continue their TB treatment. In 2023, 118 (48.0%) of the 246 TB cases in Georgia were diagnosed and initially reported by a hospital or clinic.

Treatment outcomes were analyzed for eligible 2022 cases as treatment completion data for cases reported in 2023 are not yet available. Eligible cases included persons alive at diagnosis, with an initial drug regimen of one or more drugs prescribed, who did not die within one year of initiating treatment. Ineligible cases included persons with an initial rifampin-resistant isolate, patients with bone and joint disease, meningeal disease, or disease of the central nervous system, or pediatric patients (ages 0–14 years) with miliary disease or positive blood culture or a positive nucleic acid amplification test on a blood specimen, and those who moved out of the country within one year of initiating treatment. Persons reported by the Folkston ICE Processing Center are also excluded as treatment outcomes are unknown.

Among the 210 eligible TB cases counted in 2022, a total of 194 (92.4%) completed treatment and 181 (86.2%) completed treatment within 12 months (Table 5; Figure 13). County health department staff provide directly observed therapy (DOT) to TB patients, which entails watching a patient swallow every dose of their

TB treatment medications for at least 6 months. Of the 209 cases with available data on treatment administration data in 2022, 142 (67.9%) received TB treatment entirely by DOT, 64 (30.6%) were treated by a combination of DOT and self-administered therapy, and 3 (1.4%) were totally self-administered (Figure 14).

### TB MORTALITY

Sixteen persons died of TB in Georgia in 2023. The age-adjusted TB mortality rate was 0.15 per 100,000, which accounts for differences in mortality rates that result from age differences in the underlying population. From 2019 to 2023, a median of 10 TB deaths occurred in Georgia, with a range of 5 to 16 deaths per year.

# CONTACT INVESTIGATIONS AND LATENT TB INFECTION

### PULMONARY TB

Persons with pulmonary or laryngeal TB have a greater 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 2023, 198 (80.5%) of the 246 TB cases in Georgia had pulmonary TB. Of the 198 pulmonary TB cases, 141 (71.2%) had sputum cultures that were positive for Mycobacterium tuberculosis, 94 (47.5%) were sputum AFB smear-positive, and 53 (26.8%) showed cavitary lesions on chest radiography.

# TB CONTACT INVESTIGATIONS AND LATENT TB INFECTION

Public health authorities routinely conduct contact investigations among persons exposed to a TB case to identify secondary TB cases and contacts with latent TB infection (LTBI). TB cases (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 conduct in-person interviews to ask recent contacts whether 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 (first) TB 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 if they do not receive treatment for LTBI.

A total of 1,622 contacts were identified from the contact investigations of TB cases reported in 2022 (the latest year with complete contact investigation data). Among these, 1,245 (76.8%) were completely evaluated for TB. Of the completely evaluated contacts, 324 (26.0%) had LTBI and 9 (0.7%) had TB disease. Among the 324 contacts with LTBI, 199 (61.4%) started LTBI treatment. Of the contacts who started LTBI treatment, 163 (81.9%) completed LTBI treatment, 14 (7.0%) chose to stop LTBI treatment, 9 (4.5%) was lost to follow-up, 4 (1.0%) discontinued treatment due to provider decision, 2 (1.0%) developed active TB disease, 1 (0.5%) moved, and 1 (0.5%) had adverse side effects.

# DRUG RESISTANCE AND MOLECULAR EPIDEMIOLOGY

#### DRUG RESISTANCE

Among the 196 culture-positive TB cases in Georgia in 2023, 180 (91.8%) were tested for initial drug susceptibility to three of the first-line anti-TB medications: isoniazid (INH), rifampin (RIF), and ethambutol (EMB). Of the 176 tested isolates from cases with no previous history of TB, 13 (7.4%) had primary resistance to INH (resistant to INH, sensitive to RIF irrespective of other drugs) and 0 cases had primary resistance to RIF (resistant to RIF, sensitive to INH irrespective of other drugs). Primary resistance to these two drugs has been defined in previous surveillance reports as INH resistance only and RIF resistance only. Figure 12 has been updated to reflect these changes starting in 2023.

There were 2 reported cases of multidrug-resistant TB (MDR-TB, i.e. TB resistant to at least INH and RIF) in 2023, neither of which were among individuals who had previously been diagnosed with TB. This number has remained the same from the 2 cases of multidrug-resistant TB in 2022. From 2019-2023, the percentage of TB cases with primary INH resistance (INH-R) in Georgia ranged from 5.3% to 9.3%, with an average of 2.4 MDR-TB cases per year (Figure 12). MDR-TB cases often require longer and more complicated treatment, which can be costly for patients and TB programs. Patients treated for MDR-TB can experience serious side effects including hearing loss, hepatitis, kidney impairment, and psychological changes. The average cost of treating a person with TB disease increases with greater drug resistance. On average, the direct cost of treating a patient with drug-susceptible TB in 2020 was \$20,000, compared to \$568,000 for a patient with the extensively drug resistant (XDR-TB, i.e. TB resistant to isoniazid and rifampin, a fluroquinolone and a second-line injectable, bedaquiline, or linezolid). Funding mechanisms are in place to assist patients with treatment costs but can add additional strain to TB programs. More information about drug-resistant TB can be found at <u>https://www.cdc.gov/tb/about/drug-resistant.html</u>.

### MOLECULAR EPIDEMIOLOGY

TB genotyping is a laboratory method that determines the genetic relatedness of TB strains among different patients with culture-positive TB disease. Identical genotypes among persons with TB disease suggest recent person-to-person transmission. The state TB program routinely analyzes TB genotype clusters, which are comprised of two or more TB cases with identical genotypes, to identify recent TB transmission, describe risk factors for transmission, identify possible sources of transmission, and determine ways to stop transmission.

From 2021-2023, there were 35 two-case clusters, 8 three-case clusters, 4 four-case clusters, 2 five-case clusters, and 7 clusters with six or more cases in Georgia (Figure 15). Figure 16 displays the number of genotype cluster alerts by alert level. According to the CDC, alert level is determined by the log likelihood ratio statistic (LLR) for a given cluster, identifying higher than expected geospatial concentrations for a TB genotype cluster in a specific county, compared to the national distribution of that genotype. The Tuberculosis Genotyping Information Management System (TB GIMS) generates alert level notifications based on the LLR: "No alert" is indicated if the LLR is between  $0 \le 5$ , "medium" is for clusters with LLRs between  $5 \le 10$ , and "high" alert is for clusters with LLRs  $\ge 10$ . LOTUS (Large Outbreak of Tuberculosis in the United States) alerts are generated when clusters of  $\ge 10$  genotype-matched cases within a 3-year period that related by recent transmission are identified. Between 2021-2023, Georgia received 30 medium alerts, 5 high alerts, and 1 LOTUS alerts (Figure 16).

#### TABLES AND FIGURES

**TABLE 1:** TB Cases and Case Rates by County, Georgia, 2022-2023

TABLE 2: TB Cases and Case Rates by Health District, Georgia, 2022-2023

**TABLE 3:** Percentage of TB Cases with Known TB Risk Factors by Health District, Georgia, 2023

 TABLE 4: Primary Resistance to First-Line Anti-TB Medications, Georgia, 2023

**TABLE 5:** Completion of TB Treatment and Completion of TB Treatment within 12Months by Health District, Georgia, 2022

**TABLE 6:** TB Cases and Case Rates by Age Group, Georgia, 2019-2023

 TABLE 7: TB Cases and Case Rates by Race/Ethnicity, Georgia, 2019-2023

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FIGURE 2: TB Case Rates, United States and Georgia, 2003-2023

FIGURE 3A: TB Cases by County, Georgia, 2023

FIGURE 3B: TB Cases by Health District, Georgia, 2023

FIGURE 4: TB Case Rates by Health District, Georgia, 2023

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FIGURE 6: TB Cases by Race/Ethnicity, Georgia, 2023

FIGURE 7: TB Case Rates Among Non-Hispanic Black and Non-Hispanic White Persons, Georgia, 2003-2023

FIGURE 8: U.S.-Born and Non-U.S.-Born TB Cases, Georgia, 2019-2023

FIGURE 9: Country of Origin for Non-U.S.-Born TB Cases, Georgia, 2023

FIGURE 10: HIV Status of TB Cases, Georgia, 2003-2023

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FIGURE 15: Number of TB Genotype Clusters by Cluster Size, Georgia, 2021-2023

FIGURE 16: Tuberculosis Genotype Cluster Alerts by TB GIMS Alert Level, Georgia, 2021-2023

# **TABLE 1:** TB CASES AND CASE RATES\* BYCOUNTY, GEORGIA, 2022-2023

	20	22	2023		
COUNTY	CASES	RATE*	CASES	RATE*	
Appling	0	0.0	0	0.0	
Atkinson	<5		<5		
Bacon	<5		0	0.0	
Baker	0	0.0	0	0.0	
Baldwin	0	0.0	<5		
Banks	0	0.0	0	0.0	
Barrow	<5	0.0	<5		
Bartow	<5	0.0	<5		
Ben Hill	0	0.0	0	0.0	
Berrien	<5		<5		
Bibb	<5		<5		
Bleckley	<5		0	0.0	
Brantley	0	0.0	0	0.0	
Brooks	0	0.0	0	0.0	
Bryan	0	0.0	<5		
Bulloch	0	0.0	0	0.0	
Burke	0	0.0	0	0.0	
Butts	0	0.0	0	0.0	
Calhoun	0	0.0	0	0.0	
Camden	0	0.0	0	0.0	
Candler	0	0.0	0	0.0	
Carroll	<5		<5		
Catoosa	<5		<5		
Charlton <sup>^</sup> D. Ray James Correctional Facility/	0	0.0	0	0.0	
Folkston ICE Processing Center <sup>‡</sup>	<5		<5		
Chatham	10	3.3	5		
Chattahoochee	0	0.0	0	0.0	
Chattooga	0	0.0	0	0.0	
Cherokee	0	0.0	<5		
Clarke	<5		<5		
Clay	0	0.0	0	0.0	
Clayton^	9	3.0	<5		
Robert A. Deyton Detention Facility <sup>‡</sup>	0	0.0	<5		

	20	22	20	2023	
COUNTY	CASES	RATE	CASES	RATE	
Clinch	0	0.0	<5		
Cobb	23	3.0	19		
Coffee	0	0.0	<5		
Colquitt	5	10.9	<5		
Columbia <sup>^</sup>	<5		<5		
Augusta State Medical Prison <sup>‡</sup>	<5		0	0.0	
Cook	<5		0	0.0	
Coweta	<5		<5		
Crawford	0	0.0	0	0.0	
Crisp	0	0.0	0	0.0	
Dade	0	0.0	0	0.0	
Dawson	0	0.0	0	0.0	
Decatur	<5		0	0.0	
Dekalb	48	6.3	52		
Dodge	0	0.0	0	0.0	
Dooly	0	0.0	<5		
Dougherty	0	0.0	<5		
Douglas	<5		<5		
Early	0	0.0	0	0.0	
Echols	0	0.0	0	0.0	
Effingham	<5		0	0.0	
Elbert	0	0.0	0	0.0	
Emanuel	<5		0	0.0	
Evans	0	0.0	0	0.0	
Fannin	0	0.0	0	0.0	
Fayette	<5		<5		
Floyd	<5		0	0.0	
Forsyth	<5		8		
Franklin	0	0.0	<5		
Fulton	31	2.9	26		
Gilmer	0	0.0	<5		
Glascock	0	0.0	0	0.0	
Glynn	<5		<5		
Gordon	0	0.0	<5		
Grady	<5		0	0.0	
Greene	0	0.0	0	0.0	
Gwinnett	41	4.2	35		
Habersham	<5		0	0.0	
Hall	5	2.4	7		
Hancock	0	0.0	0	0.0	

	20	22	20	2023	
COUNTY	CASES	RATE	CASES	RATE	
Haralson	0	0.0	0	0.0	
Harris	0	0.0	0	0.0	
Hart	0	0.0	0	0.0	
Heard	0	0.0	<5		
Henry	<5		<5		
Houston	0	0.0	<5		
Irwin <sup>^</sup>	0	0.0	0	0.0	
Irwin County Detention Center <sup>‡</sup>	0	0.0	0	0.0	
Jackson	0	0.0	0	0.0	
Jasper	0	0.0	0	0.0	
Jeff Davis	0	0.0	0	0.0	
Jefferson	0	0.0	0	0.0	
Jenkins <sup>^</sup>	0	0.0	0	0.0	
Jenkins Correctional Center <sup>*</sup>	0	0.0	0	0.0	
Johnson	0	0.0	0	0.0	
Jones	0	0.0	0	0.0	
Lamar	<5		0	0.0	
Lanier	0	0.0	0	0.0	
Laurens	0	0.0	0	0.0	
Lee	<5		0	0.0	
Liberty	<5		0	0.0	
Lincoln	0	0.0	0	0.0	
Long	0	0.0	<5		
Lowndes	<5		<5		
Lumpkin	0	0.0	<5		
Macon	0	0.0	0	0.0	
Madison	<5		0	0.0	
Marion	<5		0	0.0	
Mcduffie	0	0.0	<5		
Mcintosh	0	0.0	0	0.0	
Meriwether	<5		0	0.0	
Miller	0	0.0	0	0.0	
Mitchell	0	0.0	0	0.0	
Monroe	0	0.0	0	0.0	
Montgomery	0	0.0	0	0.0	
Morgan	<5		0	0.0	
Murray	0	0.0	0	0.0	
Muscogee	10	4.9	10	_	
Newton	0	0.0	<5		
Oconee	0	0.0	<5		

	20	2023		
COUNTY	CASES	RATE	CASES	RATE
Oglethorpe	0	0.0	0	0.0
Paulding	<5		<5	
Peach	0	0.0	0	0.0
Pickens	0	0.0	0	0.0
Pierce	<5		0	0.0
Pike	0	0.0	<5	
Polk	0	0.0	<5	
Pulaski	0	0.0	0	0.0
Putnam	0	0.0	0	0.0
Quitman	0	0.0	0	0.0
Rabun	0	0.0	0	0.0
Randolph	0	0.0	0	0.0
Richmond	5	2.4	<5	
Rockdale	<5		0	0.0
Schley	0	0.0	0	0.0
Screven	<5		0	0.0
Seminole	0	0.0	0	0.0
Spalding	0	0.0	0	0.0
Stephens	<5		0	0.0
Stewart <sup>^</sup>	0	0.0	0	0.0
Stewart Detention Center <sup>‡</sup>	0	0.0	0	0.0
Sumter	<5		0	0.0
Talbot	0	0.0	<5	
Taliaferro	0	0.0	0	0.0
Tattnall	0	0.0	0	0.0
Taylor	<5		0	0.0
Telfair	<5		0	0.0
Terrell	<5		0	0.0
Thomas	0	0.0	0	0.0
Tift	0	0.0	0	0.0
Toombs	0	0.0	<5	
Towns	0	0.0	0	0.0
Treutlen	0	0.0	0	0.0
Troup	<5		<5	
Turner	0	0.0	0	0.0
Twiggs	0	0.0	0	0.0
Union	0	0.0	<5	
	0	0.0	<5	
Upson	<5		<5	
Walker				
Walton	<5		<5	

COUNTY	20	22	2023	
COUNTY	CASES	RATE	CASES	RATE
Ware	0	0.0	0	0.0
Warren	0	0.0	0	0.0
Washington	0	0.0	0	0.0
Wayne	<5		<5	
Webster	0	0.0	0	0.0
Wheeler	0	0.0	0	0.0
White	0	0.0	0	0.0
Whitfield	<5		<5	
Wilcox	0	0.0	0	0.0
Wilkes	0	0.0	0	0.0
Wilkinson	0	0.0	0	0.0
Worth	0	0.0	0	0.0
TOTAL	260	2.4	246	2.2

\*Rate per 100,000 population; ^Reported cases and calculated rates in these counties exclude cases from corresponding prisons and detention centers; <sup>\*</sup>Denominators for prisons and detention centers are unknown

**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.

**Data Sources:** 1) Case counts were obtained from State Electronic Notifiable Disease Surveillance System (SENDSS) data as of September 19<sup>th</sup>, 2024; 2) Rates were calculated using population estimates obtained from the U.S. Census Bureau via <u>https://oasis.state.ga.us/oasis/webquery/qryPopulation.aspx</u>.

# **TABLE 2:** TB CASES AND CASE RATES<sup>\*</sup> BY HEALTH DISTRICT, GEORGIA, 2022-2023

	_20	2022		2023	
HEALTH DISTRICT	CASES	RATE*	CASES	RATE*	
1.1 Rome	6	0.9	9	1.3	
1.2 Dalton	<5		5	1.7	
2.0 Gainesville	12	1.5	18	2.3	
3.1 Cobb	25	2.7	20	2.2	
3.2 Fulton	31	2.9	26	2.4	
3.3 Clayton^	9	3.0	<5		
Robert A. Deyton Detention Facility <sup>‡</sup>	0	0	<5		
3.4 Lawrenceville	42	3.5	36	3.0	
3.5 Dekalb	48	6.3	52	6.8	
4.0 LaGrange	15	1.6	13	1.4	
5.1 Dublin	<5		0	0.0	
5.2 Macon	<5		7	1.3	
6.0 Augusta <sup>^</sup>	9	1.8	5	1.0	
Augusta State Medical Prison <sup>‡</sup>	<5		0	0.0	
Jenkins Correctional Center <sup>*</sup>	0	0	0	0.0	
7.0 Columbus <sup>^</sup>	13	3.6	12	3.3	
Stewart Detention Center <sup>‡</sup>	0	0	0	0.0	
8.1 Valdosta	7	2.7	<5		
Irwin County Detention Center <sup>‡</sup>	0	0	0	0.0	
8.2 Albany	11	3.2	7	2.0	
9.1 Coastal	15	2.3	8	1.2	
9.2 Waycross <sup>^</sup>	5	1.3	6	1.6	
D. Ray James Correctional Facility/					
Folkston ICE Processing Center <sup>‡</sup>	<5		<5		
10.0 Athens	5	0.9	10	1.7	
TOTAL	260	2.4	246	2.2	

<sup>\*</sup>Rate per 100,000 population; <sup>^</sup>Reported cases and calculated rates in these health districts exclude cases from corresponding prisons and detention centers; <sup>‡</sup>Denominators for prisons and detention centers are unknown.

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

**Data Sources**: 1) Case counts were obtained from State Electronic Notifiable Disease Surveillance System (SENDSS) data as of September 19<sup>th</sup>, 2024; 2) Rates were calculated using population estimates obtained from the U.S. Census Bureau via <u>https://oasis.state.ga.us/oasis/webquery/qryPopulation.aspx</u>.

TABLE 3: PERCENTAGE OF TB CASES WITH KNOWN TB RISK FACTORS BY HEALTH						
				ALIN		
DISTRIC	t, geoi	RGIA, 2	023			
HEALTH DISTRICT	NON-U.S BORN (%)	HOMELESS IN PAST YEAR (%)	CORRECTIONAL FACILITY (%)	LONG- TERM CARE FACILITY (%)	SUBSTANCE USE (%)	
1.1 Rome	33.3	11.1	0.0	0.0	11.1	
1.2 Dalton	60.0	20.0	0.0	0.0	0.0	
2.0 Gainesville	50.0	0.0	0.0	0.0	27.8	
3.1 Cobb	55.0	20.0	20.0 0.0 0.0 10			
3.2 Fulton	53.8	7.7	0.0	0.0	15.4	
3.3 Clayton	66.7	0.0	16.7	0.0	0.0	
3.4 Lawrenceville	91.7	8.3	0.0	0.0	11.1	
3.5 Dekalb	73.1	9.6	1.9	1.9	11.5	
4.0 LaGrange	23.1	0.0	0.0	0.0	30.8	
5.1 Dublin						
5.2 Macon	71.4	0.0	0.0	0.0	14.3	
6.0 Augusta	40.0	20.0	0.0	0.0	0.0	
7.0 Columbus	16.7	8.3	0.0	0.0	33.3	
8.1 Valdosta	25.0	0.0	0.0	0.0	0.0	
8.2 Albany	0.0	0.0	0.0 0.0 0.0 28.6		28.6	
9.1 Coastal	37.5	0.0	0.0	12.5	37.5	
9.2 Waycross	44.4	0.0	33.3	0.0	22.2	
10.0 Athens	50.0	0.0	0.0	10.0	10.0	
TOTAL	56.9	7.3	2.0	1.2	15.9	

**Data Source:** Data were obtained from State Electronic Notifiable Disease Surveillance System (SENDSS) as of September 19<sup>th</sup>, 2024.

<b>TABLE 4:</b> PRIMARY RESISTANCE TO FIRST- LINE ANTI-TB MEDICATIONS, GEORGIA, 2023						
LINLA						
		IAZID	RIFAI		ETHAM	
	CASES	PERCENT*	CASES	PERCENT*	CASES	PERCENT*
GEORGIA	13	7.4	0	0.0	0	0.0
*Percent of cases with completed drug susceptibility testing and no prior treatment with anti-TB medications (N=176)						
<b>Data Source:</b> Data were obtained from State Electronic Notifiable Disease Surveillance System (SENDSS) as of September 19 <sup>th</sup> , 2024.						

# **TABLE 5:** COMPLETION OF TB TREATMENTAND COMPLETION OF TB TREATMENT WITHIN12 MONTHS BY HEALTH DISTRICT, GEORGIA,2022 (N=210)\*\*

HEALTH DISTRICT	COMPLETION OF TB TREATMENT (%)	COMPLETION OF TB TREATMENT WITHIN 12 MONTHS (%)	
1.1 Rome	100	100	
1.2 Dalton			
2.0 Gainesville	100	100	
3.1 Cobb	85.7	81.0	
3.2 Fulton	85.7	75.0	
3.3 Clayton	87.5	87.5	
3.4 Lawrenceville	90.9	87.9	
3.5 DeKalb	95.3	90.7	
4.0 LaGrange	100	91.7	
5.1 Dublin	100	100	
5.2 Macon			
6.0 Augusta	100	88.9	
7.0 Columbus	87.5	50.0	
8.1 Valdosta	100	100	
8.2 Albany	100	88.9	
9.1 Coastal	100	100	
9.2 Waycross	66.7	66.7	
10.0 Athens	100	100	
TOTAL	92.4	86.2	

\*Denominator includes persons alive at diagnosis, with initial drug regimen of one or more drugs prescribed, who did not die within one year of initiating treatment; denominator excludes persons with initial rifampin-resistant isolate, patients with bone and joint disease, meningeal disease, or disease of the central nervous system, or pediatric patients (ages 0–14 years) with miliary disease or positive blood culture or a positive nucleic acid amplification test on a blood specimen, and those who moved out of the country within one year of initiating treatment.

**Data Source:** Data were obtained from State Electronic Notifiable Disease Surveillance System (SENDSS) as of September 19<sup>th</sup>, 2024.

#### **TABLE 6:** TB CASE RATES<sup>\*</sup> BY AGE GROUP, GEORGIA, 2019-2023

AGE (YEARS)	<b>2019</b> (N=298)	<b>2020</b> (N=220)	<b>2021</b> (N=222)	<b>2022</b> (N=260)	<b>2023</b> (N=246)
<5	2.0	1.1	0.8	1.7	1.6
5-14	0.5	0.2	0.6	0.1	0.3
15-24	2.1	1.2	1.5	1.5	1.7
25-44	3.2	3.0	2.5	2.9	2.7
45-64	3.7	2.5	2.5	3.2	2.5
65+	3.8	2.2	2.8	3.1	3.3

\*Rate per 100,000 population

**Data Source:** Data were obtained from State Electronic Notifiable Disease Surveillance System (SENDSS) as of September 19<sup>th</sup>, 2024.

### **TABLE 7:** TB CASE RATES<sup>\*</sup> BY RACE/ETHNICITY, GEORGIA, 2019-2023

RACE/ETHNICITY	<b>2019</b> (N=298)	<b>2020</b> (N=220)	<b>2021</b> (N=221 <sup>^</sup> )	<b>2022</b> (N=260)	<b>2023</b> (N=246)	
Asian, non-Hispanic	16.1	10.4	14.5	12.7	8.8	
All races, Hispanic	5.7	4.4	4.7	6.7	5.0	
American Indian/Alaskan Native, non-Hispanic	4.1	0.0	0.0	0.0	0.0	
Black, non-Hispanic	3.9	2.8	2.2	2.4	3.2	
Multiracial, non-Hispanic	1.0	0.0	0.5	1.3	0.0	
White, non-Hispanic	0.6	0.5	0.4	0.5	0.5	
Native Hawaiian/Pacific Islander, non-Hispanic	0.0	13.2	12.9	0.0	0.0	

\*Rate per 100,000 population; ^Case count excludes 1 case with unknown race/ethnicity

**Data Source:** Data were obtained from State Electronic Notifiable Disease Surveillance System (SENDSS) as of September 19<sup>th</sup>, 2024.

### FIGURE 1: TB CASES AND CASE RATES<sup>\*</sup>, GEORGIA, 2003-<u>2023</u>



### FIGURE 2: TB CASE RATES<sup>\*</sup>, UNITED STATES, 2003-2023 7.0 6.0 Cases per 100,000 Population 5.0 4.0 3.0 2.9 2.2 2.0 1.0 0.0 $20^{9}20^{4}20^{5}20^{6}20^{9}20^{9}20^{9}20^{9}20^{10}20^{12}2$ Year U.S. Case Rate —GA Case Rate \*Rate per 100,000 population

# FIGURE 3A: TB CASES BY COUNTY, GEORGIA, 2023 (N=246)



### FIGURE 3B: TB CASES BY HEALTH DISTRICT, GEORGIA, 2023 (N=246)



#### FIGURE 4: TB CASE RATES \* BY HEALTH DISTRICT, GEORGIA, 2023 (N = 246) 1-2 Dalton 2-0 3-1 Cobb Gainesville 3-2 Fulton 3-3 Clayton 1-1 3-4 Lawrenceville Rome 3-5 DeKalb 3-1 3 - 410-0 Athens 3-2 3-5 3-3 6-0 Augusta 4-0 5-2 LaGrange Macon 5-1 7-0 Dublin Columbus 9-1 Coastal 9-2 Waycross 8-2 Albany 8-1 Valdosta CASE RATE PER 100,000 POPULATION > 2.2 □ ≤ 2.2 2023 State Case Rate=2.2

\*Rate per 100,000 population

### FIGURE 5: TB CASES BY AGE AND SEX, GEORGIA, 2023 (N=246)





### FIGURE 7: TB CASE RATES<sup>\*</sup> AMONG NON-HISPANIC BLACK AND NON-HISPANIC WHITE PERSONS, GEORGIA, 2003-2023



### FIGURE 8: U.S.-BORN AND NON-U.S.-BORN TB CASES, GEORGIA, 2019-2023







### FIGURE 11: RISK FACTORS AMONG TB PATIENTS, GEORGIA, 2019-2023





\*\*Defined as having resistance to at least INH and RIF
### FIGURE 13: COMPLETION OF TB THERAPY, GEORGIA, 2012-2022\* 100.0 92.4 80.0 92.4 86.2 80.0 92.4 86.2 20.0 92.4 86.2

**Note**: Includes persons alive at diagnosis, with initial drug regimen of one or more drugs prescribed, who did not die within one year of initiating treatment; excludes persons with initial rifampin-resistant isolate, patients with bone and joint disease, meningeal disease, or disease of the central nervous system, or pediatric patients (ages 0–14 years) with miliary disease or positive blood culture or a positive nucleic acid amplification test on a blood specimen, and those who moved out of the country within one year of initiating treatment

2011 2018

Year

2016

2015

Completed Treatment

0.0

2012

\*Data available through 2022

2013

2014

2020

202

2019

Completed Treatment in  $\leq$  1 Year

2022



#### FIGURE 15: NUMBER OF TB GENOTYPE CLUSTERS<sup>\*</sup> BY CLUSTER SIZE, GEORGIA, 2021-2023



#### FIGURE 16: TB GENOTYPE CLUSTER ALERTS BY TB GIMS<sup>\*</sup> ALERT LEVEL<sup>^</sup>, GEORGIA, 2021-2023



alert" is indicated if the LLR is between  $0 \le 5$ , "medium" is for clusters with LLRs between  $5 \le 10$ , and "high" alert is for clusters with LLRs  $\ge 10$ . LOTUS (Large Outbreak of Tuberculosis in the United States) alerts are generated when clusters of  $\ge 10$  genotype-matched cases within a 3-year period that related by recent transmission are identified.

### 2003-2023 TUBERCULOSIS MORBIDITY TRENDS

BY HEALTH DISTRICT

## DISTRICT 1-1 ROME: TB CASES AND RATES<sup>^</sup>, 2003-2023





# **DISTRICT 2-0 GAINESVILLE:** TB CASES AND RATES<sup>^</sup>, 2003-2023



#### DISTRICT 3-1 COBB: TB CASES AND RATES<sup>^</sup>, 2003-2023





### DISTRICT 3-3 CLAYTON<sup>‡</sup>: TB CASES AND RATES<sup>^</sup>, 2003-2023











#### DISTRICT 5-2 MACON: TB CASES AND RATES<sup>^</sup>, 2003-2023 7.0 35 30 6.0 25 23 CASES PER 100,000 POPULATION 4 5.0 NO. OF CASES 20 4.0 15 3.0 2.0 10 1.3 1.0 5 0.0 0 YEAR No. of Cases ---Case Rate <sup>^</sup>Rate per 100,000 population: <sup>\*</sup>Case counts between one and four are suppressed and the case rate is not calculated

## **DISTRICT 6-0 AUGUSTA<sup>‡</sup>:** TB CASES AND RATES<sup>^</sup>, 2003-2023



## **DISTRICT 7-0 COLUMBUS<sup>‡</sup>:** TB CASES AND RATES<sup>^</sup>, 2003-2023











