



Reported Tuberculosis IN THE UNITED STATES, 2017

Cover Image: An original painting of tuberculosis bacilli by the 7-year-old daughter of CDC employee Sarah Talarico, PhD. Image courtesy of Sarah Talarico.



**Centers for Disease
Control and Prevention**
National Center for HIV/AIDS,
Viral Hepatitis, STD, and
TB Prevention

For accessibility this report is also found at <https://www.cdc.gov/tb/statistics/reports/2017/default.htm>.
For accessible surveillance slide set go to <https://www.cdc.gov/tb/statistics/surv/surv2017/default.htm>.

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Centers for Disease Control and Prevention
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Division of Tuberculosis Elimination

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²This report is dedicated to Ms. Lilia Manangan for her >30 years of federal public health service.

Preface

Reported Tuberculosis in the United States, 2017, presents summary data for tuberculosis (TB) cases verified and counted during 2017. Report of Verified Case of TB (RVCT) forms are submitted to the Division of TB Elimination (DTBE), National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, by 60 reporting areas (the 50 states, the District of Columbia, New York City, Puerto Rico, and 7 other U.S.-affiliated jurisdictions in the Pacific Ocean and Caribbean Sea).

Reported Tuberculosis in the United States, 2017, is similar to previous publications and contains an Executive Commentary, Technical Notes, seven major data sections, and appendices. The Executive Commentary includes highlights of the 2017 data, and the Technical Notes section provides information about how the data were collected and reported; these two sections are included to help the reader interpret the data.

Other sections provided in the annual report are described as follows:

- **Morbidity Trend Tables**—Trends in the overall TB case counts and case rates for the United States, its territories, and freely associated states, by selected demographic, clinical, and genotypic characteristics.
- **Morbidity Tables, 2017**—Overall case counts and case rates for the United States and other jurisdictions, by selected demographic and genotypic characteristics.
- **Morbidity Tables, Reporting Areas, 2017**—TB case counts and case rates, by state and other jurisdictions, with tables of selected demographic and clinical characteristics.
- **Morbidity Tables, Reporting Areas, 2015**—Data for the most recent year for which data are available for selected follow-up variables that require a longer data collection period.
- **Morbidity Tables, Metropolitan Statistical Areas, 2017**—TB case counts and case rates, by metropolitan statistical areas (MSAs: see Technical Notes for further details), with tables of selected demographic and clinical characteristics.
- **Estimates of Recent Transmission, 2016–2017**—Estimates of genotyped case counts and percentages of cases attributed to recent transmission and extensive recent transmission for the United States, by selected geographic, demographic, and clinical characteristics.
- **Surveillance Slide Set, 2017**—Figures from the annual surveillance slide set emphasizing key recent trends in TB epidemiology in the United States and selected jurisdictions. The slides with accompanying text can also be viewed and downloaded from <https://www.cdc.gov/tb/statistics/surv/surv2017/default.htm>.
- **Tuberculosis Case Definition for Public Health Surveillance**—Appendix A.
- **Recommendations for Reporting and Counting Tuberculosis Cases**—Appendix B.
- **National Surveillance for Severe Adverse Events Associated with Treatment for Latent Tuberculosis Infection**—Reporting Information—Appendix C.
- **Genotyping Background Information and Glossary**—Appendix D.

Previous Statistical Reports in this Series

1. Special Tuberculosis Projects, 1961–1965. Atlanta: CDC; 1966.
2. Special Tuberculosis Projects, December 1965. Atlanta: CDC; 1966.
3. Special Tuberculosis Projects, June 1966. Atlanta: CDC; 1967.
4. Special Tuberculosis Projects, December 1966. Atlanta: CDC; 1967.
5. Summary Report. Atlanta: CDC; 1967.
6. *Special Tuberculosis Projects, June 1967*. Atlanta: CDC; 1968.
7. Tuberculosis Program Reports, December 1967. Atlanta: CDC; 1968.
8. *Tuberculosis Program Reports: Tuberculin testing during 1966–1967 school year*. Atlanta: CDC; 1968.
9. *Tuberculosis Program Reports: Six Month Period Ending June 1968*. Atlanta: CDC; 1969.
10. *Tuberculosis Program Reports: Program Performance Analyses, June–December 1968*. Atlanta: CDC; 1970.
11. *Tuberculosis Program Reports: Tuberculin testing data, 1967–1968 school year*. Atlanta: CDC; 1970.
12. *Tuberculosis Program Reports (1961–1969)*. Atlanta: CDC; 1970.
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14. *Reported Tuberculosis Data (1962–1973)*. Atlanta: CDC; 1963–1974.
15. *Tuberculosis Statistics: States and Cities (1974–1985)*. Atlanta: CDC; 1971–1986.
16. *Tuberculosis in the United States (1974–1986)*. Atlanta: CDC; 1976–1987.
17. *Tuberculosis Program Reports: Tuberculosis program management in the United States, 1984*. Atlanta: CDC; 1986.
18. *Tuberculosis Statistics in the United States (1987–1992)*. Atlanta: CDC; 1989–1993.
19. *Reported Tuberculosis in the United States (1993–2016)*. Atlanta: CDC; 1994–2017.

Contact information for the TB control offices in each reporting area is available at:

<http://www.cdc.gov/tb/links/tboffices.htm>

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Executive Commentary

Introduction

Tuberculosis (TB) is a bacterial disease caused by infection with *Mycobacterium tuberculosis* complex. Since 1953, the National TB Surveillance System (NTSS) has collected information on each newly reported case of TB disease in the United States. In addition to the 50 United States and the District of Columbia (DC), CDC accepts TB case reports from five U.S. territories (American Samoa, Commonwealth of the Northern Mariana Islands, Guam, Puerto Rico, and the U.S. Virgin Islands) and three sovereign nations that have signed compacts of free association with the United States (Federated States of Micronesia, Republic of the Marshall Islands, and Republic of Palau); however, the information presented in this commentary is based on the case reports from the 50 states and DC, except where otherwise specified. CDC maintains TB surveillance data in an electronic database for all cases reported since 1993; reporting areas may update this information at any time. Small variations in historical data included in this report compared with previous reports are attributed to these updates. This annual summary contains information on TB cases reported to CDC during 1993–2017 by year that the reporting jurisdiction counted the case.

Key Findings

National Level

In 2017, the 50 states and the District of Columbia (herein referred to as the “United States”) reported 9,105 TB cases to CDC, representing the lowest number of annual cases on record and 1.6% decrease from 2016 (Table 1). The national TB incidence rate was 2.8 per 100,000 persons, a 2.3% decrease from 2016 (Table 1).

State, Territorial, and Local Level

California (2,057 cases, 22.6%), Texas (1,127 cases, 12.4%), New York (806 cases, 8.9%), and Florida (549 cases, 6.0%) reported the greatest number of cases in 2017 (Table 29). Together, they accounted for just under half of the cases reported by the 50 states and DC (Table 29). Hawaii (8.1), Alaska (7.2), California (5.2), and DC (5.2) reported the highest incidence rates per 100,000 persons (Table 28). Twelve states and DC reported incidence rates above the national average of 2.8 cases per 100,000 persons (Table 28). While case counts were comparatively low in the U.S. territories and freely associated states, reported incidence rates per 100,000 persons ranged from zero in the U.S. Virgin Islands to 352.8 in the Republic of the Marshall Islands (Table 28).

Among Metropolitan Statistical Areas (MSA) with ≥500,000 population in 2017, the New York-Newark-Jersey City MSA reported the greatest number of cases (976), followed by Los Angeles-Long Beach-Anaheim (726 cases),

San Francisco-Oakland-Hayward (357 cases), and Houston-The Woodlands-Sugar Land (341 cases) (Table 53). However, San Jose-Sunnyvale-Santa Clara (9.3), Urban Honolulu (9.1), San Francisco-Oakland-Hayward (7.6) and San Diego-Carlsbad (7.1) reported the highest incidence rates per 100,000 persons (Table 53).

Demographic Characteristics

Country of Birth

Country of birth continues to be a major risk factor for TB diagnosed in the United States because the risk of TB exposure varies by country. In 2017, 2,705 TB cases were reported in U.S.-born persons (defined as persons born in the United States or its territories, or born elsewhere to a U.S. citizen parent), compared with 6,384 cases in non-U.S.-born persons (29.7% vs 70.1%) (Table 5). In terms of incidence rates per 100,000 persons, U.S.-born persons had a TB rate of 1.0 compared with 14.7 among non-U.S.-born persons (Table 5). Among non-U.S.-born persons reported with TB in 2017, the top five countries of birth by number of cases reported were Mexico, the Philippines, India, Vietnam, and China (Table 6).

Among the cases reported in non-U.S.-born persons in 2017, a total of 1040 (16.3%) were diagnosed <1 year after first arrival in the United States, which is consistent with previous observations of the proportion of TB cases among non-U.S.-born persons diagnosed in the first few years after arrival in the United States (Table 19). Approximately equal percentages of TB cases among non-U.S.-born persons occurred <10 years and ≥10 years after first arrival, demonstrating that TB is a concern among all non-U.S.-born persons, even long-term U.S. residents (Table 19).

Race and Ethnicity

TB continues to affect racial and ethnic minorities disproportionately compared with non-Hispanic whites. The TB incidence rate per 100,000 persons for non-Hispanic whites has remained relatively stable for the past 4 years and is currently 0.5, while the incidence rate for other racial/ethnic groups in 2017 ranged from 3.9 for non-Hispanic American Indians/Alaska Natives to 19.1 among non-Hispanic Native Hawaiians/Other Pacific Islanders (7.2–35.2 times the rate for non-Hispanic whites) (Table 2).

Among U.S.-born persons reported with TB disease in 2017, non-Hispanic blacks were most commonly represented (1,007 cases, 37.2%), followed by non-Hispanic whites (803 cases, 29.7%) and Hispanics (593 cases, 21.9%) (Table 3). Among non-U.S.-born persons reported with TB disease in 2017, non-Hispanic Asians (3,115 cases, 48.8%) were the largest group, followed by Hispanics (1,967 cases, 30.8%) and non-Hispanic blacks (900 cases, 14.1%) (Table 3).

Age

TB remains most commonly reported among persons 25–64 years of age (60.6%), followed by older adults (≥65 years of age) at 25.3% and adolescents and young adults between 15 and 24 years of age at 9.3% (Table 4). Children <15 years of age constitute only 4.7% of U.S. TB cases, although these cases are often of great concern to TB programs as they might be indicators of recent transmission of TB (Table 4).

Clinical Characteristics

Site of Disease

Pulmonary disease (either exclusively or in combination with extrapulmonary disease) continues to represent the vast majority (79.2%) of U.S. TB cases (Table 7). Among the 1,887 cases reported with exclusively extrapulmonary disease, the most common sites of disease included the lymphatic system (37.8%), the pleura (15.6%), bones or joints (9.2%), the peritoneum (5.9%), the meninges (4.3%), and the genitourinary system (4.1%) (Table 15). Of note, there were no laryngeal (a particularly infectious site of TB disease) TB cases reported in 2017 (Table 15).

Case Verification Criteria

The vast majority (78.1%) of U.S. TB cases were confirmed via microbiologic culture that isolated *M. tuberculosis* complex from a clinical specimen, while 2.9% did not have a positive culture result but were confirmed either through a positive nucleic acid amplification test conducted directly on a clinical specimen or on the basis of identification of acid-fast bacilli through microscopic examination of a clinical specimen (Table 7). The remaining 19% of cases, which were not verified through microbiologic testing, were confirmed either by meeting clinical criteria or on the basis of a diagnosis made by a healthcare provider (Table 7).

Comorbidities

Among persons reported with TB in 2017, a total of 439 (5.5% of TB cases with test result information) were co-infected with HIV (Table 11). Of these patients with HIV/TB coinfection, 236 were 25–44 years of age (9.2% of TB cases in this age group with test result information) (Table 11). The percentage of HIV/TB co-infection has remained stable over the last 3 years (Table 11). Additionally, diabetes mellitus continues to be an important clinical risk factor for TB disease. In 2017, a total of 1,816 (19.9%) persons reported with TB also had diabetes (Table 35). Immunosuppressive conditions other than HIV were reported in 650 (7.1%) of 2017 TB cases and 708 (7.8%) cases occurred in persons who were a known contact of an infectious TB case (Table 35).

Social and Behavioral Risk Factors

Congregate Settings

Residence in congregate settings remains a risk factor for TB

infection, which can subsequently progress to TB disease. Additionally, TB cases in congregate settings increase the risk of secondary cases and the difficulty of subsequent contact investigations. Among TB cases reported among persons ≥15 years of age in 2017, healthcare providers diagnosed 268 (3.1%) cases among residents of correctional facilities (Table 37), 397 (4.6%) cases in persons who experienced homelessness in the year preceding diagnosis (Table 38), and 150 (1.7%) cases among residents of long-term care facilities (Table 39).

Substance Use

Substance use is also a risk factor for TB infection and for progression to TB disease. Among TB cases diagnosed in persons ≥15 years of age that were reported in 2017 with information on history of substance use in the year preceding TB diagnosis, 101 (1.2%) cases were among persons who reported injecting drugs (Table 40), 573 (6.7%) reported using noninjectable drugs (Table 41), and 753 (8.9%) reported excessive alcohol use (Table 42).

TB Drug Resistance

Isoniazid Resistance

Resistance to anti-TB drugs remains relatively low in the United States, with 598 (9.2%) cases among all cases with available information on anti-TB drug susceptibility, previous history of TB, and origin of birth being resistant to at least isoniazid in 2017 (Table 8). While the proportion of cases with no previous history of TB disease that reported isoniazid resistance (i.e., primary isoniazid resistance) has remained stable at approximately 9% in the last several years, the proportion of cases with at least one previous episode of TB disease that reported isoniazid resistance (i.e., potentially acquired isoniazid resistance) has been increasing in recent years to nearly 20% (Table 8).

Multidrug Resistance

The percentage of U.S. TB cases that are multidrug-resistant (MDR, or resistant to at least isoniazid and rifampin) TB has remained steady for >20 years at approximately 1% of culture-positive cases with drug susceptibility results (Table 9). The United States reported two extensively drug-resistant TB (defined as MDR TB that is additionally resistant to any fluoroquinolone and at least one of three injectable second-line anti-TB drugs) cases in 2017.

TB Treatment and Outcome

Initial Treatment Regimen

To reduce the risk of inducing drug resistance, CDC recommends treating all newly diagnosed TB cases with at least four anti-TB drugs.¹ The typical initial drug regimen for TB cases not known to have drug resistance includes isoniazid, rifampin, pyrazinamide, and ethambutol (i.e.,

IRZE regimen). In 2017, 83.2% of U.S. TB cases received the recommended IRZE regimen as the initial drug regimen (Table 10). An additional 10.2% of cases received a different initial drug regimen that still included at least four anti-TB drugs (Table 10).

Directly Observed Therapy (DOT)

CDC recommends the use of DOT for treatment of TB patients whenever possible.¹ Among cases reported in 2015, the most recent year for which case completion data are available, 65.1% of TB patients received DOT exclusively and an additional 28.5% of patients received a combination of DOT and self-administered therapy. These percentages have been stable since 2011 (Table 10). Many TB programs are exploring alternatives to traditional DOT, such as the use of videoconferencing or other electronic means of monitoring medication adherence; however, NTSS does not currently distinguish these alternative strategies from traditional DOT.

Completion of Treatment

Among patients expected to complete TB treatment within 1 year of diagnosis, 89.5% completed therapy within 1 year (Table 10). An additional 6.3% (total of 95.8%) of these individuals eventually completed treatment (Table 10). Among persons with TB reported in 2015, a total of 8,133 (87.6%) completed treatment, 572 (6.2%) died before completing treatment, and the remainder discontinued treatment for other reasons (Table 12).

Among TB cases reported in 2015, a total of 792 (8.7%) died either before treatment could be started, or after starting treatment but before completing treatment (Table 13). Among those who died, 281 (35.5%) were reported as having died because of TB disease or the adverse effects of TB treatment (Table 13).

Molecular Surveillance

Genotype Clusters

TB genotyping is a laboratory-based analysis used to characterize a small portion of the genetic material of bacteria belonging to the *M. tuberculosis* complex. TB genotype clusters are defined in this report as ≥ 2 cases with matching genotypes in the same county during a 3-year time period. CDC identified clusters among 20.3% of genotyped cases during 2015–2017 (Table 24). Clusters are classified into alert levels based on a log-likelihood ratio (LLR) calculation; clusters with an LLR ≥ 5 are classified as a medium alert level and clusters with an LLR ≥ 10 are classified as a high alert level. While not all clustered cases result from recent transmission, clusters with high or medium alert levels could represent TB outbreaks.² During 2015–2017, 17.6% of clustered cases were part of high-alert clusters and 24.3% of clustered cases were part of medium-alert clusters (Table 24).

Estimates of Recent Transmission

This is the second annual TB surveillance report that provides national estimates of recent transmission and extensive recent transmission. CDC attributes a TB case to recent transmission if a plausible source case with a matching genotype is identified within a specified geographic radius and has a diagnosis within 2 years prior to the case (see Estimates of Recent Transmission, 2016–2017 section for more details).³ Nationally, CDC attributed 1,787 (13.1%) of 13,650 genotyped cases reported during 2016–2017 to recent transmission (Table 57, Figure 1). These 1,787 cases are further attributed to extensive recent transmission if a plausible chain of transmission of ≥ 6 cases, including the plausible source case and 4 or more other cases within 3 years before a given case in the chain, is identified (see Estimates of Recent Transmission, 2016–2017 section).⁴ Nationally, 4.6% of genotyped cases are attributed to extensive recent transmission, although state- and county-level estimates vary considerably (Tables 57 and 58). Forty-seven counties or regions had $>5\%$ of their genotyped cases attributed to extensive recent transmission during 2016–2017 (Table 58, Figure 2). Greater proportions of cases attributed to recent transmission and extensive recent transmission were identified among certain racial groups and among persons with social and behavioral risk factors, as compared with national averages (Table 59).

Conclusions

TB remains a serious problem in the United States even though it is both preventable and curable. Persons with TB are in every state, in rural areas and cities, in schools, workplaces, homes, and many other places where people are in close contact.

TB elimination (defined as <1 TB case per 1 million persons) would have widespread health, economic, and social benefits in the United States. The overall number of TB cases and the TB incidence rate in the United States decreased from 2016 to 2017. While the United States continues to make slow progress toward TB elimination, statistical modeling suggests that new and expanded approaches will be required to achieve TB elimination in the United States.^{5,6}

Several interventions have been proposed to accelerate the decline in U.S. TB incidence, including increasing testing and treatment for latent TB infection (LTBI) in high-risk populations, enhancing detection of TB cases to reduce transmission through the provision of treatment as prevention, and improving TB treatment regimens to increase the proportion of TB cases that successfully complete treatment. An epidemiologic model of each of these potential interventions estimated that increasing screening and treatment for LTBI in high-risk populations

would result in the greatest reductions of any single intervention in LTBI prevalence and TB disease incidence.⁶

To this end, CDC has placed additional emphasis on efforts to identify and treat LTBI. Among these efforts are the implementation of case-based sentinel surveillance for LTBI, evaluation of existing data sources (e.g., administrative claims data and electronic health records) for utility in

estimating LTBI prevalence, and improvements in LTBI treatment such as the expansion of the recommendation for the short-course isoniazid-rifapentine regimen to be used in persons 2 years of age and older and in persons coinfecting with HIV who are able to take rifapentine, as well as for use of the regimen by self-administered therapy or directly observed therapy.⁷

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Technical Notes

National Tuberculosis Surveillance System

Reporting areas (i.e., the 50 states, the District of Columbia (DC), New York City, Puerto Rico, and other U.S. jurisdictions in the Pacific Ocean and Caribbean Sea) provide information regarding tuberculosis (TB) cases to CDC's National TB Surveillance System (NTSS) by using a standard case report form, the Report of Verified Case of TB (RVCT). TB cases are verified according to the TB Case Definition for Public Health Surveillance (Appendix A). TB cases are reported and counted according to the Recommendations for Reporting and Counting TB Cases (Appendix B).

TB Case Definition

In 2009, the TB case definition was modified. TB cases are verified according to the following specified laboratory and clinical criteria (see Appendix A).

Laboratory Criteria for Diagnosis

A TB case may be verified by the laboratory case definition with at least one of the following criteria: (1) isolation of *Mycobacterium tuberculosis* complex from a clinical specimen; **or** (2) demonstration of *M. tuberculosis* complex from a clinical specimen by nucleic acid amplification test (NAAT), **or** (3) demonstration of acid-fast bacilli (AFB) in a clinical specimen when a culture has not been or cannot be obtained or is falsely negative or contaminated.

Clinical Case Criteria

A TB case may be verified by the clinical case definition in the presence of **all** of the following clinical criteria: (1) a positive tuberculin skin test (TST) result or positive interferon-gamma release assay (IGRA) result for *M. tuberculosis* complex; **and** (2) other signs and symptoms compatible with TB (e.g., abnormal chest radiograph, abnormal chest computerized tomography [CT] scan, or other chest imaging study or clinical evidence of current disease); **and** (3) treatment with two or more anti-TB drugs; **and** (4) a completed diagnostic evaluation.

Provider Diagnosis

Provider diagnosis is not a component of the case definition for TB as described in Appendix A. However, when cases of TB are diagnosed but do not meet either the clinical or laboratory case definition, reporting areas have the option of verifying TB cases on the basis of provider diagnosis as described in Appendix B. Through 2008, the RVCT did not collect information regarding IGRA results. If an IGRA was performed in lieu of TST, the RVCT would have indicated that TST was not performed. Thus, culture- and smear-negative cases without a TST that were diagnosed by a positive IGRA result before 2008 were considered to have been confirmed by provider diagnosis. Starting in 2009, positive results for an IGRA have been included as part of the clinical case

definition for TB confirmation. Anergic patients with a clinical presentation consistent with TB but without laboratory evidence of *M. tuberculosis* complex would also be an example of provider diagnosis and one that has not changed over time.

TB Case Verification Criteria Calculation

The software for TB surveillance developed by CDC includes a calculated variable for TB case verification called "VERCRIT," which was modified in 2009. The new variables, Nucleic Acid Amplification Test (NAAT) Result, Interferon Gamma Release Assay (IGRA) for *Mycobacterium tuberculosis* complex at Diagnosis, and Initial Chest CT Scan or Other Chest Imaging Study were added in the VERCRIT calculation.

VERCRIT is calculated by using the following criteria in hierarchical order:

1. Positive culture
2. Positive NAAT
3. Positive AFB
4. Clinical case confirmation
5. Provider diagnosis

Reporting and Counting of TB Cases

In 2009, the recommendations for reporting and counting of TB cases (Appendix B) were modified. TB cases that are verified but not countable for morbidity statistics are now reported to CDC as a measure of programmatic and case management burden. However, data for noncountable TB cases are incomplete and are not included in this report.

The recommendations for counting TB cases among immigrants, refugees, and foreign visitors were revised on the basis of the 2007 recommendations in the Technical Instructions for TB Screening and Treatment for Panel Physicians.¹ Regardless of panel physician classification or citizenship status, immigrants and refugees examined after arriving in the United States and receiving a diagnosis of clinically active TB requiring anti-TB medications should be reported and counted by the locality of their residence at the time of diagnosis. Foreign visitors with diagnosed TB receiving anti-TB therapy and planning to remain in the United States for ≥ 90 days should be reported and counted by the locality of current residence.

RVCT Variables

Data regarding demographic characteristics, clinical or laboratory diagnosis, initial treatment, and treatment outcomes are collected through three RVCT report forms:

1. **Report of Verified Case of TB**—used for all patients with a verified TB case.
2. **Initial Drug Susceptibility Report (Follow-Up Report 1)**—used for all patients who had a culture that was positive for *M. tuberculosis* complex.

¹ CDC. Immigration Requirements: Technical Instructions for Tuberculosis Screening and Treatment 2009. Atlanta: CDC, Division of Global Migration and Quarantine, revised October, 2009; <https://www.cdc.gov/immigrantrefugeehealth/exams/ti/panel/tuberculosis-panel-technical-instructions.html>.

3. Case Completion Report (Follow-Up Report 2)—used for all patients who were alive at diagnosis.

The instructions for completing the RVCT forms and the definitions for all data items are available in Centers for Disease Control and Prevention (CDC). Report of Verified Case of TB (RVCT) Instruction Manual.²

Tabulation and Presentation of TB Data

This report presents summary data for TB cases counted by reporting areas through the end of 2017. TB cases are tabulated by year in which the reporting area verified that the patient had TB and included the patient in its official annual TB case count. Since 2004, the published report has reflected updated information regarding the numbers of cases of confirmed TB for each year from 1993 onward. United States totals include data from the 50 states and DC.

Trend data are presented in Tables 1–18. Age group tabulations are based on the patient’s age during the month and year the patient was reported to the health department as having a suspected TB case. State or metropolitan area tabulations are based on the patient’s reported residence.

Rates

Rates are expressed as the number of cases reported each calendar year per 100,000 persons. Population denominators used in calculating TB rates were based on official census and midyear postcensal estimates from the U.S. Census Bureau. In Tables 1, 28, and 29, the U.S. total populations for 1990–1999 were taken from the Bridged-Race Intercensal Population Estimates for July 1, 1990–July 1, 1999;³ populations for 2000–2009 were taken from the U.S. Census Intercensal Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico for April 1, 2000–July 1, 2010;⁴ and populations for 2010–2017 were taken from the U.S. Census Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2017.⁵ Beginning in 2004, unrounded numbers were applied to calculate the annual percentage change in the TB case rate.

During 2003, two modifications were made to the RVCT form: (1) multiple race entries (two or more races reported for a person) were allowed, and (2) the previous category of “Asian/Pacific Islander” was divided into “Asian” and “Native Hawaiian/Other Pacific Islander.” To calculate rates for Tables 2 and 4, denominators for 1993–1999 were obtained from the U.S. Census Monthly Postcensal Resident Population, by single year of age, sex, race, and Hispanic origin;⁶ denominators were obtained from U.S. Census Intercensal

Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States: April 1, 2000–July 1, 2010⁷ for 2000–2009 and from the U.S. Census Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin: April 1, 2010–July 1, 2017⁸ for 2010–2017.

The population source for nativity is the Current Population Survey, which is used to calculate case rates for U.S.-born and non-U.S.-born persons with diagnosed TB. U.S.-born populations includes persons born in the 50 states and DC, those born abroad to U.S. parents, and those born in U.S. territories. In Table 5, the populations for U.S.-born and non-U.S.-born persons for 1993 were obtained from Quarterly Estimates of the United States Foreign-born and Native Resident Populations: April 1, 1990–July 1, 1999.⁹ Denominators for computing the 1994–2017 rates were based on extrapolations from the U.S. Census Current Population Survey (accessed July 2018) through DataFerrett.¹⁰ Denominators for computing 2017 rates in Table 20 were obtained from U.S. Census Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin: April 1, 2010 to July 1, 2017.⁸

Mortality Data

The annual mortality rate is calculated as the number of deaths caused by TB in that year, divided by the estimated population for the year, multiplied by 100,000 (Table 1). The number of deaths was obtained from the CDC’s National Center for Health Statistics, Multiple Cause of Death Files, 1999–2016, available from CDC’s WONDER online database. Data were compiled from the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Finalized 2017 TB-related deaths data were unavailable at the time of publication.

Drug Resistance

Drug-resistance patterns are displayed in separate tables with drug-resistance trend data by previous TB status and origin of birth. Isoniazid resistance and multidrug resistance are displayed in Tables 8 and 9, respectively.

Completion of TB Therapy

Tables 10, 51, and 52 present percentages of completion of TB therapy (COT). Data collected by RVCT Follow-Up Report-2 forms regarding date and reason therapy was stopped (e.g., the patient completed the therapy or the patient died) were used to calculate COT percentages. Cases were stratified by the indicated length of therapy, based on American Thoracic Society, CDC, and Infectious Diseases Society of America treatment guidelines in effect during the period covered and

² <http://www.cdc.gov/tb/programs/rvct/InstructionManual.pdf>

³ ftp://ftp.cdc.gov/pub/health_statistics/nchs/datasets/nvss/bridgepop/documentationbridgedintercena1.doc

⁴ <https://www.census.gov/data/tables/time-series/demo/popest/intercensal-2000-2010-state.html>

⁵ <https://www2.census.gov/programs-surveys/popest/tables/2010-2017/state/totals/nst-est2017-01.xlsx>

⁶ <https://www.census.gov/data/datasets/time-series/demo/popest/1990s-national.html>

⁷ <https://www.census.gov/data/datasets/time-series/demo/popest/intercensal-2000-2010-state.html>

⁸ <https://www.census.gov/data/tables/2017/demo/popest/nation-detail.html>

⁹ <https://www.census.gov/population/estimates/nation/nativity/ftab001.txt>

¹⁰ <https://dataferrett.census.gov/>

the patient's initial drug-susceptibility test results, age, and disease site.¹¹

In Table 51, the first column lists the total number of cases reported during 2015. The remaining columns are grouped under two headings: therapy of ≤ 1 year indicated and therapy of > 1 year indicated. Patients eligible to complete therapy in ≤ 1 year had to have been alive at time of diagnosis and initiated therapy with ≥ 1 drug. Eligible patients did not have rifampin resistance; did not die in ≤ 1 year after initiating therapy; did not move out of the country in ≤ 1 year after initiating therapy; and did not have meningeal TB, bone or joint TB, or TB of the central nervous system, regardless of age. Additionally, TB patients aged 0–14 years were ineligible to complete therapy in ≤ 1 year if they had disseminated disease (defined as miliary TB, a positive TB blood culture, or a positive NAAT on a blood specimen). Patients with culture-negative disease, those with an unknown culture status, and those with culture-positive disease but unknown initial drug-susceptibility test results were included under the category of therapy of ≤ 1 year indicated.

For the group with an indicated length of therapy of ≤ 1 year, percentages are displayed for both COT in ≤ 1 year and for COT regardless of duration (i.e., duration of therapy ≤ 1 year or > 1 year). For COT ≤ 1 year, the numerator included only those patients completing therapy in ≤ 366 days (based on the dates therapy was started and stopped). Patients with missing dates were classified as “treatment not completed” for this calculation.

COT percentages, regardless of duration, were calculated by dividing the number of patients reported as having completed therapy by the number of total eligible patients. Patients with an outcome other than completed therapy (i.e. moved, lost to follow-up, refused treatment, or other) were classified as “treatment not completed.” Patients with an unknown outcome were also classified as “treatment not completed.” For the group of indicated therapy length > 1 year, only COT percentages regardless of duration, are presented. Table 10 provides percentages for COT ≤ 1 year and for COT regardless of duration for the group with an indicated therapy of ≤ 1 year only.

TB Disease Site

Miliary disease should be reported as a pulmonary form of TB (Tables 7, 15, and 34). Beginning in 2009, miliary disease could not be classified as a TB disease site because it is a clinical or a radiologic finding and should be recorded under Initial Chest Radiograph, Initial Chest CT Scan, or Other Chest Imaging Study. During 1997–2008, miliary disease was classified as both an extrapulmonary and a pulmonary form of TB. In publications before 1997, miliary disease was classified as extrapulmonary TB unless pulmonary disease

was reported as the major disease site.

Reporting of HIV Status

Information regarding human immunodeficiency virus (HIV) status for persons with TB is displayed in Tables 11 and 46 for those persons not dead at diagnosis; Table 11 also lists trend data for persons aged 25–44 years. Reporting completeness for HIV status was 93% of TB patients tested among persons aged 25–44 years during 2017; however, this variable is still underreported across jurisdictions. Data regarding the HIV-infection status of persons reported with TB should be interpreted with caution because these data are not representative of all TB patients with HIV infection.

HIV testing is performed after a patient receives counseling and gives informed consent. TB patients who are tested anonymously might choose not to share HIV testing results with their health care provider. TB patients managed in the private sector can receive confidential HIV testing, but results might not be reported to the health department's TB program. Additionally, certain factors can influence HIV testing among TB patients, including the extent to which testing is targeted or routinely offered to specific groups (e.g., males aged 25–44 years, injection-drug users, or persons experiencing homelessness) and the availability of and access to HIV testing services. These data might overrepresent or underrepresent the proportion of TB patients known to be HIV-infected in a reporting area.

Primary Occupation for the Past Year

Table 43 reflects the modified 2009 RVCT variable, Primary Occupation within the Past Year, which replaces the Occupation within Past 24 Months of TB Diagnosis in previous reports. After the 2009 RVCT revision, Multiple Occupation was removed and the Retired and Not Seeking Employment categories were added.

Reason Therapy Was Stopped

Tables 12 and 49 now include a patient's adverse reaction to anti-TB drug therapy as an option for the reason therapy was stopped. The 2009 RVCT revision removed the option of Moved as a valid response to the variable Reason Therapy Stopped, and this option is therefore not reported after 2009. Those cases entered as Moved as reason therapy was stopped after 2009 are now categorized as Unknown.

Metropolitan Statistical Areas

Tables 53 through 56 present data by metropolitan statistical areas (MSAs) having an estimated 2017 population of $\geq 500,000$ persons. MSAs are defined by the White House Office of Management and Budget (OMB), and the definitions were based on the application of the 2010 OMB standards for delineating MSAs to Census Bureau population estimates.¹²

The MSA definitions apply to all areas except the six New England states; for those states, the New England County

¹¹ CDC. Treatment of Tuberculosis, American Thoracic Society, CDC, and the Infectious Diseases Society of America. *MMWR* 2003; 52 (No. RR-11): 1–77.

¹² <https://www.bls.gov/lau/lausmsa.htm>

Metropolitan Areas (NECMAs) are used. MSAs are named for a central city in the MSA or NECMA, can include multiple cities and counties, and can cross state boundaries. For example, the TB cases and case rates presented for DC in Table 28 include only persons residing within DC's geographic boundaries. However, the TB cases and case rates for the Washington, DC-MSA (Table 53) include persons residing within the multiple counties in the metropolitan area, including counties in Maryland, Virginia, and West Virginia. Cities or MSAs with incomplete or unavailable data were not included in the tables and certain cities' or MSAs' total numbers might be underreported because of missing information.

National TB Genotyping Service

National TB Genotyping Service laboratories primarily use two genotyping methods: spoligotyping and MIRU–VNTR (mycobacterial interspersed repetitive units–variable number of tandem repeats). Both methods require only a minor amount of culture material, provide digital results, and are relatively quick. All isolates are prepared for long-term storage at genotyping laboratories or CDC.

TB Genotyping Information Management System

In March 2010, the TB Genotyping Information Management System (TB GIMS) was launched by CDC as a secure Internet-based system to support ongoing use of TB genotyping data in TB control activities. TB GIMS facilitates systematic data collection of TB genotyping results, and it integrates genotyping results with epidemiologic data collected by NTSS to form a national and centralized database. Primary users of TB GIMS include TB laboratories that submit isolates for genotyping, national CDC-contracted genotyping laboratories, state and local TB control programs, and CDC programs that apply this information for TB control activities.

Genotyping results from the national genotyping laboratories or CDC are uploaded into TB GIMS as they become available. Line-listed data from the NTSS are also uploaded into TB GIMS weekly. After genotyping results have been linked to individual patient surveillance data in TB GIMS, the record is considered complete. These complete records are essential for the majority of the applications of TB genotyping, including all reports and maps as well as for using the outbreak detection system to identify potential chains of transmission and outbreaks. Twenty-six system updates have occurred for adding new reports, data management functions, and other tools since TB GIMS was released in March 2010. As of July 2018, 615 users have accessed the system.

Genotype Clustering

A genotype cluster comprises two or more cases in a jurisdiction during a specified period having *M. tuberculosis* complex isolates that share matching genotypes. The jurisdiction and period used vary on the basis of the specific application. Cases that are part of the same genotype cluster are likely to be related by TB transmission in some way; however, the cases might not be directly related (i.e., one person did not necessarily give TB to another person in the cluster) or recently related (i.e., both persons might have contracted TB from the same person, but the exposure might have happened years ago). In TB GIMS, clustering is defined as ≥ 2 cases with matching genotypes (spoligotype and 24-locus MIRU–VNTR) in a single county within a 3-year period.

Mycobacterium bovis

For culture-confirmed TB cases that have been genotyped, *Mycobacterium bovis* can be defined primarily on the basis of spoligotyping results. The genotype-based definition for *M. bovis* required either (1) the absence of spoligotyping spacers 3, 9, 16, and 39–43; the presence of ≥ 1 of the spacers 29–32; and the presence of ≥ 1 of the spacers 33–36; or (2) the absence of spacers 3, 9, 16, and 39–43 and ≥ 2 copies of the repeated sequence at MIRU locus 24; or (3) determination based on microbiologic expertise. Data reported for 2004–2017 exclude cases of bacillus Calmette–Guérin *M. bovis*, which were defined as spoligotype 67677377777600 with x, y, or z in the second MIRU position. Although cases of bacillus Calmette–Guérin *M. bovis* (defined as spoligotype 67677377777600 with x, y, or z in the second MIRU position) were reported during 2004–2017, they are excluded from this report.

Recent Transmission

Estimates are based on a plausible-source case method that is described in detail elsewhere.¹³ Briefly, a given case is designated as attributed to recent transmission if a plausible source case with the following five characteristics can be identified in the national surveillance data: the same *M. tuberculosis* complex GENType, an infectious form of TB disease, patient's residential location within 10 miles, patient's age ≥ 10 years, and a diagnosis within the 2 years before the given case. These criteria were field-validated using local epidemiologic assessments of whether 1,188 cases in three states were actually due to recent transmission that was attributed to source cases reported during 1996–2000. Any given case with a plausible source case identified is included regardless of cluster size. Among cases attributed to recent transmission, a given case can also be attributed to extensive recent transmission if a plausible chain of transmission of ≥ 6 cases is identified, including the plausible source case and 4 or more other cases within 3 years before a given case in the chain.

¹³France AM, Grant J, Kammerer JS, Navin TR. A field-validated approach using surveillance and genotyping data to estimate tuberculosis attributable to recent transmission in the United States. *Am J Epidemiol* 2015; 182: 799-807.

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Morbidity Trend Tables

Table 1. Tuberculosis Cases, Case Rates per 100,000 Population, Deaths, and Death Rates per 100,000 Population, and Percent Change: United States, 1953–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table1.htm>.

Year	Tuberculosis cases				Tuberculosis deaths			
	Number	Rate	Percent change		Number ¹	Rate ¹	Percent change	
			Number	Rate			Number	Rate
1953	84,304	52.6	—	—	19,707	12.4	—	—
1954	79,775	48.9	-5.4	-7.0	16,527	10.2	-16.1	-17.7
1955	77,368	46.6	-3.0	-4.7	15,016	9.1	-9.1	-10.8
1956	69,895	41.4	-9.7	-11.1	14,137	8.4	-5.9	-7.7
1957	67,149	39.0	-3.9	-5.8	13,390	7.8	-5.3	-7.1
1958	63,534	36.3	-5.4	-6.9	12,417	7.1	-7.3	-9.0
1959	57,535	32.4	-9.4	-10.7	11,474	6.5	-7.6	-8.5
1960	55,494	30.7	-3.5	-5.2	10,866	6.0	-5.3	-7.7
1961	53,726	29.2	-3.2	-4.9	9,938	5.4	-8.5	-10.0
1962	53,315	28.6	-0.8	-2.1	9,506	5.1	-4.3	-5.6
1963	54,042	28.6	1.4	0.0	9,311	4.9	-2.1	-3.9
1964	50,874	26.5	-5.9	-7.3	8,303	4.3	-10.8	-12.2
1965	49,016	25.2	-3.7	-4.9	7,934	4.1	-4.4	-4.7
1966	47,767	24.3	-2.5	-3.6	7,625	3.9	-3.9	-4.9
1967	45,647	23.0	-4.4	-5.3	6,901	3.5	-9.5	-10.3
1968	42,623	21.2	-6.6	-7.8	6,292	3.1	-8.8	-11.4
1969	39,120	19.3	-8.2	-9.0	5,567	2.8	-11.5	-9.7
1970	37,137	18.1	-5.1	-6.2	5,217	2.6	-6.3	-7.1
1971	35,217	17.0	-5.2	-6.1	4,501	2.2	-13.7	-15.4
1972	32,882	15.7	-6.6	-7.6	4,376	2.1	-2.8	-4.5
1973	30,998	14.6	-5.7	-7.0	3,875	1.8	-11.4	-14.5
1974 ²	30,122	14.1	-2.8	-3.4	3,513	1.7	-9.3	-5.6
1975	33,989	15.7	—	—	3,333	1.6	-5.1	-5.9
1976	32,105	14.7	-5.5	-6.4	3,130	1.5	-6.1	-6.3
1977	30,145	13.7	-6.1	-6.8	2,968	1.4	-5.2	-6.7
1978	28,521	12.8	-5.4	-6.6	2,914	1.3	-1.8	-7.1
1979 ³	27,669	12.3	-3.0	-3.9	2,007	0.9	-31.1	-30.8
1980	27,749	12.2	0.3	-0.7	1,978	0.9	-1.4	-3.3
1981	27,373	11.9	-1.4	-2.3	1,937	0.8	-2.1	-3.0
1982	25,520	11.0	-6.8	-7.7	1,807	0.8	-6.7	-7.6
1983	23,846	10.2	-6.6	-7.4	1,779	0.8	-1.5	-2.4
1984	22,255	9.4	-6.7	-7.5	1,729	0.7	-2.8	-3.6
1985	22,201	9.3	-0.2	-1.1	1,752	0.7	1.3	0.4
1986	22,768	9.5	2.6	1.6	1,782	0.7	1.7	0.8
1987	22,517	9.3	-1.1	-2.0	1,755	0.7	-1.5	-2.4
1988	22,436	9.2	-0.4	-1.3	1,921	0.8	9.5	8.5
1989	23,495	9.5	4.7	3.7	1,970	0.8	2.6	1.6
1990	25,701	10.3	9.4	8.2	1,810	0.7	-8.1	-9.2
1991	26,283	10.4	2.3	0.9	1,713	0.7	-5.4	-6.6
1992	26,673	10.4	1.5	0.1	1,705	0.7	-0.5	-1.8
1993	25,102	9.7	-5.9	-7.1	1,631	0.6	-4.3	-5.6
1994	24,206	9.2	-3.6	-4.7	1,478	0.6	-9.4	-10.5
1995	22,726	8.5	-6.1	-7.2	1,336	0.5	-9.6	-10.7
1996	21,210	7.9	-6.7	-7.8	1,202	0.4	-10.0	-11.1
1997	19,751	7.2	-6.9	-8.0	1,166	0.4	-3.0	-4.2
1998	18,286	6.6	-7.4	-8.5	1,112	0.4	-4.6	-5.7
1999	17,499	6.3	-4.3	-5.4	930	0.3	-16.4	-17.3
2000	16,308	5.8	-6.8	-7.8	776	0.3	-16.6	-17.5
2001	15,945	5.6	-2.2	-3.2	764	0.3	-1.5	-2.5
2002	15,055	5.2	-5.6	-6.5	784	0.3	2.6	1.7
2003	14,835	5.1	-1.5	-2.3	711	0.2	-9.3	-10.1
2004	14,499	5.0	-2.3	-3.2	657	0.2	-7.6	-8.4
2005	14,065	4.8	-3.0	-3.9	648	0.2	-1.4	-2.3
2006	13,727	4.6	-2.4	-3.3	652	0.2	0.6	-0.3
2007	13,280	4.4	-3.3	-4.2	554	0.2	-15.0	-15.8
2008	12,889	4.2	-2.9	-3.9	585	0.2	5.6	4.6
2009	11,514	3.8	-10.7	-11.4	529	0.2	-9.6	-10.4
2010	11,100	3.6	-3.6	-4.4	569	0.2	7.6	6.7
2011	10,504	3.4	-5.4	-6.1	539	0.2	-5.3	-6.0
2012	9,935	3.2	-5.4	-6.1	510	0.2	-5.4	-6.1
2013	9,561	3.0	-3.8	-4.4	555	0.2	8.8	8.1
2014	9,398	2.9	-1.7	-2.4	493	0.2	-11.2	-11.8
2015	9,547	3.0	1.6	0.8	470	0.1	-4.7	-5.4
2016	9,253	2.9	-3.1	-3.8	528	0.2	12.3	11.5
2017	9,105	2.8	-1.6	-2.3	—	—	—	—

¹Official tuberculosis mortality statistics were compiled by the National Center for Health Statistics, CDC (<https://wonder.cdc.gov/tb.html>); accessed June 12, 2018.

²Case data after 1974 are not comparable to prior years due to changes in the surveillance case definition that became effective in 1975.

³The large decrease in death rate in 1979 occurred because late effects of tuberculosis (e.g., bronchiectasis or fibrosis) and pleurisy with effusion (without mention of cause) are no longer included in tuberculosis deaths. Percent change in tuberculosis death rates is calculated with unrounded figures. See Technical Notes.

Note: The 1993 to 2017 tuberculosis case counts and rates were updated using the following sources: Bridged-Race 1990–1999 Intercensal Population Estimates for 1990–1999 (https://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm#july2009), Intercensal Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2010 (<https://www.census.gov/data/tables/time-series/demo/popest/intercensal-2000-2010-state.html>) and Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 July 1, 2017 (<https://www.census.gov/data/tables/2017/demo/popest/nation-detail.html>); accessed June 12, 2018.

Percentage change results reported to one decimal. See Surveillance Slides #2.

Table 2. Tuberculosis Cases, Percentages, and Case Rates per 100,000 Population by Hispanic Ethnicity and Non-Hispanic Race: United States, 1993–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table2.htm>.

Year	Total cases			Non-Hispanic										Hispanic/Latino ⁴			Unknown/missing ⁵				
	No.	(%)	Rate	American Indian/Alaska Native	Asian ¹	Black/African American	Native Hawaiian/Other Pacific Islander ²	White	Multiple race ³	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	No.	(%)		
1993	25,102	(1.1)	14.4	3,454	(13.8)	42.2	8,947	(35.6)	29.1	—	—	6,903	(27.5)	3.6	—	—	5,137	(20.5)	20.4	389	(1.5)
1994	24,206	(1.4)	17.1	3,639	(15.0)	42.8	8,383	(34.6)	26.9	—	—	6,572	(27.2)	3.4	—	—	5,019	(20.7)	19.2	266	(1.1)
1995	22,726	(1.4)	16.5	3,840	(16.9)	43.4	7,554	(33.2)	23.9	—	—	5,972	(26.3)	3.1	—	—	4,834	(21.3)	17.8	207	(0.9)
1996	21,210	(1.4)	14.7	3,666	(17.3)	39.9	7,097	(33.5)	22.2	—	—	5,487	(25.9)	2.8	—	—	4,492	(21.2)	16.0	181	(0.9)
1997	19,751	(1.3)	13.3	3,683	(18.6)	38.6	6,604	(33.4)	20.4	—	—	4,824	(24.4)	2.5	—	—	4,217	(21.4)	14.5	159	(0.8)
1998	18,286	(1.4)	12.7	3,516	(19.2)	35.6	5,823	(31.8)	17.8	—	—	4,475	(24.5)	2.3	—	—	4,089	(22.4)	13.5	129	(0.7)
1999	17,499	(1.4)	11.9	3,519	(20.1)	34.5	5,549	(31.7)	16.8	—	—	4,227	(24.2)	2.2	—	—	3,864	(22.1)	12.3	98	(0.6)
2000	16,308	(1.4)	11.0	3,392	(20.8)	31.3	5,148	(31.6)	15.0	—	—	3,638	(22.3)	1.9	—	—	3,803	(23.3)	10.7	95	(0.6)
2001	15,945	(1.4)	10.7	3,499	(21.9)	30.9	4,782	(30.0)	13.7	—	—	3,346	(21.0)	1.7	—	—	4,009	(25.1)	10.8	83	(0.5)
2002	15,055	(1.2)	8.7	3,323	(22.1)	28.2	4,467	(29.7)	12.7	—	—	3,042	(20.2)	1.6	—	—	3,973	(26.4)	10.3	65	(0.4)
2003	14,835	(1.2)	8.3	3,460	(23.3)	29.3	4,159	(28.0)	11.7	64	(0.4)	2,792	(18.8)	1.4	37	(0.2)	4,105	(27.7)	10.2	39	(0.3)
2004	14,499	(1.1)	7.2	3,335	(23.0)	27.3	4,070	(28.1)	11.4	63	(0.4)	2,631	(18.1)	1.3	34	(0.2)	4,181	(28.8)	10.1	28	(0.2)
2005	14,065	(1.1)	7.1	3,201	(22.8)	25.3	3,954	(28.1)	10.9	54	(0.4)	2,570	(18.3)	1.3	46	(0.3)	4,044	(28.8)	9.4	41	(0.3)
2006	13,727	(1.2)	7.5	3,297	(24.0)	25.2	3,730	(27.2)	10.2	52	(0.4)	2,386	(17.4)	1.2	39	(0.3)	4,049	(29.5)	9.1	9	(0.1)
2007	13,280	(1.0)	6.0	3,447	(26.0)	25.5	3,475	(26.2)	9.4	95	(0.7)	2,207	(16.6)	1.1	24	(0.2)	3,875	(29.2)	8.4	24	(0.2)
2008	12,889	(1.1)	6.1	3,396	(26.3)	24.3	3,280	(25.4)	8.8	69	(0.5)	2,142	(16.6)	1.1	41	(0.3)	3,800	(29.5)	8.0	25	(0.2)
2009	11,514	(0.9)	4.5	3,204	(27.8)	22.3	2,868	(24.9)	7.6	73	(0.6)	1,816	(15.8)	0.9	48	(0.4)	3,371	(29.3)	6.8	32	(0.3)
2010	11,100	(1.4)	6.8	3,161	(28.5)	21.4	2,657	(23.9)	7.0	96	(0.9)	1,754	(15.8)	0.9	42	(0.4)	3,221	(29.0)	6.3	15	(0.1)
2011	10,504	(1.3)	5.8	3,158	(30.1)	20.7	2,407	(22.9)	6.3	82	(0.8)	1,644	(15.7)	0.8	56	(0.5)	3,004	(28.6)	5.8	21	(0.2)
2012	9,935	(1.3)	5.8	3,043	(30.6)	19.4	2,245	(22.6)	5.8	65	(0.7)	1,562	(15.7)	0.8	57	(0.6)	2,787	(28.1)	5.3	43	(0.4)
2013	9,561	(1.3)	5.3	3,097	(32.4)	19.1	2,088	(21.8)	5.3	62	(0.6)	1,414	(14.8)	0.7	51	(0.5)	2,699	(28.2)	5.0	26	(0.3)
2014	9,398	(1.2)	5.0	3,083	(32.8)	18.4	2,014	(21.4)	5.1	91	(1.0)	1,247	(13.3)	0.6	80	(0.9)	2,749	(29.3)	5.0	17	(0.2)
2015	9,547	(1.5)	6.1	3,296	(34.5)	19.1	1,999	(20.9)	5.0	102	(1.1)	1,243	(13.0)	0.6	43	(0.5)	2,700	(28.3)	4.8	19	(0.2)
2016	9,253	(1.1)	4.7	3,199	(34.6)	17.9	1,978	(21.4)	4.9	78	(0.8)	1,197	(12.9)	0.6	67	(0.7)	2,598	(28.1)	4.5	25	(0.3)
2017	9,105	(1.0)	3.9	3,254	(35.7)	17.7	1,910	(21.0)	4.7	110	(1.2)	1,073	(11.8)	0.5	68	(0.7)	2,568	(28.2)	4.4	28	(0.3)

¹Asian race category reporting includes Pacific Islander from 1993–2002.

²Native Hawaiian/Other Pacific Islander race first reported separately in 2003.

³Indicates two or more races reported for a person. Category first reported in 2003 and does not include persons of Hispanic/Latino origin.

⁴Persons of Hispanic ethnicity may be of any or multiple race.

⁵The higher count for unknown or missing race results for 1993–2001 reflect the impact of incorporating new race definitions for Asian, Native Hawaiian, and multiple race in 2003.

Note: Rates for 1993–1999 have been updated using Resident Population; Monthly Postcensal Resident Population, by single year of age, sex, race, and Hispanic origin (<https://www.census.gov/data/datasets/time-series/demo/hopest/1990s-national.html>), accessed July 6, 2017. Denominators for computing 2000–2009 case rates were obtained from the Intercessal Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States: April 1, 2000 to July 1, 2010 (<https://www.census.gov/data/tables/time-series/demo/hopest/intercessal-2000-2010-national.html>); accessed July 6, 2017. Denominators for computing 2010–2017 case rates were obtained from the Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin: April 1, 2010 to July 1, 2017 (<https://www.census.gov/data/tables/2017/demo/popges/nation-detail.html>); accessed June 27, 2018.

Case counts for race categories (American Indian or Alaska Native, Asian, Black/African American, Native Hawaiian/Other Pacific Islander, and white) do not include persons of Hispanic ethnicity or multiple race.

See Technical Notes.

See Surveillance Slide #7.

Table 3. Tuberculosis Cases and Percentages by Hispanic Ethnicity and Non-Hispanic Race, and by Origin of Birth: United States, 1993–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table3.htm>.

Year	Non-Hispanic										Hispanic/Latino ⁴						Unknown/missing ⁵											
	American Indian/ Alaska Native		Asian ¹		Black/African American		Native Hawaiian/Other Pacific Islander ²		White		Multiple race ³		U.S.-born		Non-U.S.-born		U.S.-born No.	U.S.-born (%)	Non-U.S.-born No.	Non-U.S.-born (%)								
	U.S.-born No.	U.S.-born (%)	Non-U.S.-born No.	Non-U.S.-born (%)	U.S.-born No.	U.S.-born (%)	Non-U.S.-born No.	Non-U.S.-born (%)	U.S.-born No.	U.S.-born (%)	Non-U.S.-born No.	Non-U.S.-born (%)	U.S.-born No.	U.S.-born (%)	Non-U.S.-born No.	Non-U.S.-born (%)												
1993	263	(97.0)	8	(3.0)	129	(3.7)	3,317	(96.3)	8,250	(92.9)	630	(7.1)	—	—	6,317	(92.3)	528	(7.7)	2,235	(44.0)	2,849	(56.0)	239	(77.1)	71	(22.9)		
1994	322	(98.5)	5	(1.5)	162	(4.5)	3,467	(95.5)	7,576	(91.1)	738	(8.9)	—	—	6,009	(92.4)	494	(7.6)	1,989	(40.1)	2,967	(59.9)	122	(57.3)	91	(42.7)		
1995	313	(98.1)	6	(1.9)	148	(3.9)	3,689	(96.1)	6,750	(89.4)	797	(10.6)	—	—	5,427	(91.1)	529	(8.9)	1,906	(39.6)	2,912	(60.4)	119	(60.7)	77	(39.3)		
1996	281	(97.9)	6	(2.1)	157	(4.3)	3,502	(95.7)	6,301	(88.8)	793	(11.2)	—	—	4,967	(90.8)	504	(9.2)	1,603	(35.9)	2,859	(64.1)	76	(46.3)	88	(53.7)		
1997	259	(98.5)	4	(1.5)	155	(4.2)	3,522	(95.8)	5,718	(86.7)	875	(13.3)	—	—	4,255	(88.6)	546	(11.4)	1,464	(34.9)	2,727	(65.1)	73	(48.0)	79	(52.0)		
1998	249	(98.0)	5	(2.0)	139	(4.0)	3,371	(96.0)	4,972	(85.5)	845	(14.5)	—	—	3,914	(87.6)	553	(12.4)	1,280	(31.5)	2,785	(68.5)	55	(46.2)	64	(53.8)		
1999	237	(97.9)	5	(2.1)	139	(4.0)	3,368	(96.0)	4,607	(83.3)	924	(16.7)	—	—	3,637	(86.3)	575	(13.7)	1,119	(29.2)	2,717	(70.8)	44	(55.7)	35	(44.3)		
2000	226	(97.4)	6	(2.6)	139	(4.1)	3,243	(95.9)	4,106	(79.8)	1,038	(20.2)	—	—	3,102	(85.3)	534	(14.7)	1,015	(26.8)	2,770	(73.2)	44	(50.6)	43	(49.4)		
2001	214	(95.1)	11	(4.9)	123	(3.5)	3,356	(96.5)	3,664	(76.7)	1,114	(23.3)	—	—	2,787	(83.6)	547	(16.4)	1,025	(25.7)	2,965	(74.3)	35	(46.1)	41	(53.9)		
2002	183	(98.9)	2	(1.1)	125	(3.8)	3,188	(96.2)	3,401	(76.4)	1,051	(23.6)	—	—	2,547	(83.9)	490	(16.1)	979	(24.8)	2,974	(75.2)	28	(46.7)	32	(53.3)		
2003	176	(98.3)	3	(1.7)	152	(4.4)	3,297	(95.6)	3,087	(74.4)	1,064	(25.6)	31	(48.4)	2,369	(85.0)	418	(15.0)	1,000	(24.5)	3,088	(75.5)	18	(52.9)	16	(47.1)		
2004	154	(98.1)	3	(1.9)	145	(4.4)	3,182	(95.6)	2,972	(73.1)	1,096	(26.9)	27	(42.9)	2,211	(84.1)	418	(15.9)	1,064	(25.5)	3,107	(74.5)	14	(51.9)	13	(48.1)		
2005	149	(96.1)	6	(3.9)	121	(3.8)	3,077	(96.2)	2,874	(72.8)	1,075	(27.2)	20	(37.0)	2,134	(83.1)	434	(16.9)	955	(23.7)	3,073	(76.3)	13	(35.1)	24	(64.9)		
2006	162	(98.2)	3	(1.8)	130	(3.9)	3,164	(96.1)	2,595	(69.6)	1,132	(30.4)	16	(30.8)	1,958	(82.1)	426	(17.9)	983	(24.4)	3,051	(75.6)	3	(37.5)	5	(62.5)		
2007	129	(97.0)	4	(3.0)	134	(3.9)	3,303	(96.1)	2,457	(71.0)	1,003	(29.0)	25	(26.3)	1,784	(81.2)	413	(18.8)	877	(22.8)	2,968	(77.2)	14	(77.8)	4	(22.2)		
2008	133	(97.8)	3	(2.2)	149	(4.4)	3,243	(95.6)	2,239	(68.3)	1,041	(31.7)	13	(18.8)	1,754	(81.9)	387	(18.1)	921	(24.3)	2,875	(75.7)	12	(48.0)	13	(52.0)		
2009	98	(96.1)	4	(3.9)	147	(4.6)	3,053	(95.4)	1,923	(67.1)	944	(32.9)	25	(34.2)	1,439	(79.2)	377	(20.8)	15	(31.3)	33	(68.8)	8	(22.6)	24	(77.4)		
2010	152	(98.7)	2	(1.3)	129	(4.1)	3,032	(95.9)	1,766	(66.5)	889	(33.5)	38	(40.0)	1,418	(80.9)	335	(19.1)	16	(38.1)	26	(61.9)	804	(25.0)	0	(0.0)	15	(100.0)
2011	130	(98.5)	2	(1.5)	131	(4.2)	3,025	(95.8)	1,540	(64.0)	866	(36.0)	29	(35.4)	1,317	(80.1)	327	(19.9)	23	(41.1)	33	(58.9)	765	(25.5)	4	(19.0)	17	(81.0)
2012	132	(95.2)	1	(0.8)	122	(4.0)	2,919	(96.0)	1,347	(60.0)	898	(40.0)	23	(35.4)	1,263	(80.9)	298	(19.1)	21	(36.8)	36	(63.2)	692	(24.8)	25	(58.1)	18	(41.9)
2013	122	(98.4)	2	(1.6)	153	(4.9)	2,943	(95.1)	1,252	(60.0)	835	(40.0)	20	(32.3)	1,090	(77.1)	323	(22.9)	24	(49.0)	25	(51.0)	656	(24.3)	13	(52.0)	12	(48.0)
2014	117	(100.0)	0	(0.0)	139	(4.5)	2,943	(95.5)	1,185	(58.8)	829	(41.2)	40	(44.0)	969	(77.7)	278	(22.3)	26	(32.5)	54	(67.5)	651	(23.7)	2	(12.5)	14	(87.5)
2015	144	(99.3)	1	(0.7)	139	(4.2)	3,156	(95.8)	1,141	(57.1)	858	(42.9)	42	(41.2)	985	(79.2)	258	(20.8)	22	(51.2)	21	(48.8)	660	(24.5)	3	(15.8)	16	(84.2)
2016	110	(99.1)	1	(0.9)	146	(4.6)	3,052	(95.4)	1,066	(53.9)	911	(46.1)	31	(39.7)	910	(76.1)	286	(23.9)	20	(29.9)	47	(70.1)	603	(23.3)	3	(12.0)	22	(88.0)
2017	91	(97.8)	2	(2.2)	136	(4.2)	3,115	(95.8)	1,007	(52.8)	900	(47.2)	45	(40.9)	803	(74.8)	270	(25.2)	26	(38.2)	42	(61.8)	593	(23.2)	4	(14.8)	23	(85.2)

¹Asian race category reporting includes Pacific Islander from 1993–2002.

²Native Hawaiian/Other Pacific Islander race first reported separately in 2003.

³Indicates two or more races reported by a person. Category first reported in 2003 and does not include persons of Hispanic/Latino origin.

⁴Persons of Hispanic ethnicity may be of any or multiple race.

⁵The higher count for unknown or missing race results for 1993–2001 reflect the impact of a transitional period of incorporating new race definitions for Asian, Native Hawaiian, and multiple race in 2003.

Notes: Case counts for race categories (American Indian/Alaska Native, Asian, Black/African American, Native Hawaiian/Other Pacific Islander, and white) do not include persons of Hispanic/Latino origin or multiple race. Non-U.S.-born persons include those born outside the United States (including the U.S. territories), except persons born to at least one U.S. citizen parent.

Data for all years updated through June 1, 2018.

See Technical Notes.

See Surveillance Slide #11.

Table 4. Tuberculosis Cases, Percentages, and Case Rates per 100,000 Population by Age Group: United States, 1993–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table4.htm>.

Year	Total cases	0–4			5–14			15–24			25–44			45–64			≥65			Unknown/missing	
		No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)
1993	25,102	1,014	(4.0)	5.2	646	(2.6)	1.7	1,821	(7.3)	5.0	9,589	(38.2)	11.6	6,195	(24.7)	12.5	5,820	(23.2)	17.7	17	(0.1)
1994	24,206	995	(4.1)	5.1	664	(2.7)	1.8	1,832	(7.6)	5.1	9,043	(37.4)	10.9	6,126	(25.3)	12.0	5,540	(22.9)	16.7	6	(0)
1995	22,726	894	(3.9)	4.6	642	(2.8)	1.7	1,697	(7.5)	4.7	8,200	(36.1)	9.8	5,960	(26.2)	11.4	5,328	(23.4)	15.8	5	(0)
1996	21,210	770	(3.6)	4.0	586	(2.8)	1.5	1,637	(7.7)	4.5	7,564	(35.7)	9.0	5,572	(26.3)	10.4	5,076	(23.9)	14.9	5	(0)
1997	19,751	734	(3.7)	3.8	517	(2.6)	1.3	1,674	(8.5)	4.6	6,884	(34.9)	8.2	5,278	(26.7)	9.5	4,663	(23.6)	13.6	1	(0)
1998	18,286	638	(3.5)	3.4	439	(2.4)	1.1	1,543	(8.4)	4.1	6,335	(34.6)	7.6	4,954	(27.1)	8.7	4,377	(23.9)	12.7	0	(0)
1999	17,499	602	(3.4)	3.2	436	(2.5)	1.1	1,518	(8.7)	4.0	6,062	(34.6)	7.3	4,860	(27.8)	8.2	4,019	(23.0)	11.6	2	(0)
2000	16,308	544	(3.3)	2.8	420	(2.6)	1.0	1,618	(9.9)	4.1	5,576	(34.2)	6.6	4,635	(28.4)	7.4	3,515	(21.6)	10.0	0	(0)
2001	15,945	543	(3.4)	2.8	386	(2.4)	0.9	1,597	(10.0)	4.0	5,610	(35.2)	6.6	4,515	(28.3)	7.0	3,293	(20.7)	9.3	1	(0)
2002	15,055	556	(3.7)	2.9	388	(2.6)	0.9	1,498	(10.0)	3.7	5,288	(35.1)	6.3	4,182	(27.8)	6.3	3,142	(20.9)	8.8	1	(0)
2003	14,835	547	(3.7)	2.8	364	(2.5)	0.9	1,573	(10.6)	3.8	5,074	(34.2)	6.1	4,283	(28.9)	6.2	2,994	(20.2)	8.3	0	(0)
2004	14,499	549	(3.8)	2.8	403	(2.8)	1.0	1,603	(11.1)	3.8	4,940	(34.1)	5.9	4,192	(28.9)	5.9	2,811	(19.4)	7.8	1	(0)
2005	14,065	474	(3.4)	2.4	377	(2.7)	0.9	1,540	(10.9)	3.6	4,737	(33.7)	5.7	4,126	(29.3)	5.6	2,811	(20.0)	7.7	0	(0)
2006	13,727	482	(3.5)	2.4	321	(2.3)	0.8	1,532	(11.2)	3.6	4,689	(34.2)	5.7	4,039	(29.4)	5.4	2,663	(19.4)	7.2	1	(0)
2007	13,280	467	(3.5)	2.3	310	(2.3)	0.8	1,580	(11.9)	3.7	4,311	(32.5)	5.2	4,037	(30.4)	5.2	2,574	(19.4)	6.8	1	(0)
2008	12,889	495	(3.8)	2.4	289	(2.2)	0.7	1,443	(11.2)	3.3	4,238	(32.9)	5.1	3,928	(30.5)	5.0	2,496	(19.4)	6.4	0	(0)
2009	11,514	403	(3.5)	2.0	244	(2.1)	0.6	1,279	(11.1)	2.9	3,885	(33.7)	4.7	3,420	(29.7)	4.3	2,283	(19.8)	5.8	0	(0)
2010	11,100	365	(3.3)	1.8	271	(2.4)	0.7	1,186	(10.7)	2.7	3,651	(32.9)	4.4	3,415	(30.8)	4.2	2,212	(19.9)	5.5	0	(0)
2011	10,504	351	(3.3)	1.7	227	(2.2)	0.6	1,029	(9.8)	2.3	3,364	(32.0)	4.1	3,289	(31.3)	4.0	2,244	(21.4)	5.4	0	(0)
2012	9,935	261	(2.6)	1.3	226	(2.3)	0.5	1,019	(10.3)	2.3	3,117	(31.4)	3.8	3,113	(31.3)	3.8	2,198	(22.1)	5.1	1	(0)
2013	9,561	295	(3.1)	1.5	188	(2.0)	0.5	979	(10.2)	2.2	2,964	(31.0)	3.6	2,954	(30.9)	3.6	2,181	(22.8)	4.9	0	(0)
2014	9,398	263	(2.8)	1.3	195	(2.1)	0.5	961	(10.2)	2.2	2,821	(30.0)	3.4	2,956	(31.5)	3.5	2,202	(23.4)	4.8	0	(0)
2015	9,547	244	(2.6)	1.2	196	(2.1)	0.5	936	(9.8)	2.1	2,858	(29.9)	3.4	3,023	(31.7)	3.6	2,290	(24.0)	4.8	0	(0)
2016	9,253	224	(2.4)	1.1	163	(1.8)	0.4	937	(10.1)	2.2	2,827	(30.6)	3.3	2,844	(30.7)	3.4	2,254	(24.4)	4.6	4	(0)
2017	9,105	228	(2.5)	1.1	201	(2.2)	0.5	847	(9.3)	2.0	2,758	(30.3)	3.2	2,758	(30.3)	3.3	2,305	(25.3)	4.5	8	(0.1)

Note: Previously published rates for 1993–1999 have been updated using Resident Population: Monthly Postcensal Resident Population, by single year of age, sex, race, and Hispanic origin (<https://www.census.gov/data/datasets/time-series/demo/popest/1990s-national.html>); accessed July 6, 2017). Denominators for computing 2000–2017 case rates were obtained from the Intercensal Estimates of the Resident Population by Sex and Age for the United States: April 1, 2000 to July 1, 2010 (<https://www.census.gov/data/tables/time-series/demo/popest/intercensal-2000-2010-national.html>), and Annual Estimates of the Resident Population for Selected Age Groups by Sex: April 1, 2010 to July 1, 2017 (<https://www.census.gov/data/tables/2017/demo/popest/national-detail.html>); accessed June 28, 2018.

Data for all years updated through June 1, 2018.

See Technical Notes.

Zero % (0) denotes <0.05%.

See Surveillance Slides #4 and #5.

Table 5. Tuberculosis Cases, Percentages, and Case Rates per 100,000 Population by Origin of Birth: United States, 1993–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table5.htm>.

Year	Total cases	U.S.-born persons			Non-U.S.-born persons ¹			Unknown/missing	
		No.	(%)	Rate	No.	(%)	Rate	No.	(%)
1993	25,102	17,433	(69.4)	7.4	7,403	(29.5)	34.0	266	(1.1)
1994	24,206	16,180	(66.8)	6.8	7,762	(32.1)	36.1	264	(1.1)
1995	22,726	14,663	(64.5)	6.1	8,010	(35.2)	38.0	53	(0.2)
1996	21,210	13,385	(63.1)	5.6	7,752	(36.5)	32.0	73	(0.3)
1997	19,751	11,924	(60.4)	4.9	7,753	(39.3)	30.9	74	(0.4)
1998	18,286	10,609	(58.0)	4.4	7,623	(41.7)	28.9	54	(0.3)
1999	17,499	9,783	(55.9)	4.0	7,624	(43.6)	28.1	92	(0.5)
2000	16,308	8,632	(52.9)	3.5	7,634	(46.8)	26.5	42	(0.3)
2001	15,945	7,848	(49.2)	3.2	8,034	(50.4)	27.6	63	(0.4)
2002	15,055	7,263	(48.2)	2.9	7,737	(51.4)	25.5	55	(0.4)
2003	14,835	6,842	(46.1)	2.7	7,947	(53.6)	23.9	46	(0.3)
2004	14,499	6,601	(45.5)	2.6	7,875	(54.3)	23.2	23	(0.2)
2005	14,065	6,290	(44.7)	2.5	7,745	(55.1)	22.3	30	(0.2)
2006	13,727	5,858	(42.7)	2.3	7,845	(57.2)	21.7	24	(0.2)
2007	13,280	5,429	(40.9)	2.1	7,780	(58.6)	20.9	71	(0.5)
2008	12,889	5,237	(40.6)	2.0	7,643	(59.3)	20.2	9	(0.1)
2009	11,514	4,501	(39.1)	1.7	6,996	(60.8)	18.8	17	(0.1)
2010	11,100	4,323	(38.9)	1.6	6,768	(61.0)	17.6	9	(0.1)
2011	10,504	3,939	(37.5)	1.5	6,560	(62.5)	17.0	5	(0.0)
2012	9,935	3,625	(36.5)	1.3	6,306	(63.5)	16.0	4	(0.0)
2013	9,561	3,330	(34.8)	1.2	6,222	(65.1)	15.7	9	(0.1)
2014	9,398	3,129	(33.3)	1.1	6,264	(66.7)	15.5	5	(0.1)
2015	9,547	3,136	(32.8)	1.1	6,406	(67.1)	15.2	5	(0.1)
2016	9,253	2,889	(31.2)	1.0	6,356	(68.7)	14.7	8	(0.1)
2017	9,105	2,705	(29.7)	1.0	6,384	(70.1)	14.7	16	(0.2)

¹Includes persons born outside the United States (including U.S. territories), except persons born to at least one U.S. citizen parent.

Note: Denominators for computing rates for year 1993 was obtained from Quarterly Estimates of the United States Foreign-Born and Native Resident Populations: April 1, 1990–July 1, 1999 (<http://www.census.gov/population/estimates/nation/nativity/fbt001.txt>); accessed June 8, 2018. Denominators for computing the 1994–2017 rates are based on the U.S. Census Bureau, Current Population Survey via Data Ferrett (<http://dataferrett.census.gov/>); accessed June 8, 2018.

Data for all years updated through June 1, 2018.

See Technical Notes.

Zero % (0) denotes <0.05%.

See Surveillance Slides [#10](#).

Table 6. Tuberculosis Cases and Percentages Among Non-U.S.–Born Persons¹ by the Top 30 Countries² of Birth: United States, 2013–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table6.htm>.

Country of birth	2017		2016		2015		2014		2013	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Total cases	6,384	(100.0)	6,356	(100.0)	6,406	(100.0)	6,264	(100.0)	6,222	(100.0)
Mexico	1,210	(19.0)	1,191	(18.7)	1,255	(19.6)	1,281	(20.5)	1,247	(20.0)
Philippines	795	(12.5)	792	(12.5)	818	(12.8)	756	(12.1)	781	(12.6)
India	600	(9.4)	593	(9.3)	582	(9.1)	479	(7.6)	495	(8.0)
Vietnam	538	(8.4)	493	(7.8)	524	(8.2)	500	(8.0)	457	(7.3)
China	402	(6.3)	383	(6.0)	425	(6.6)	420	(6.7)	376	(6.0)
Guatemala	180	(2.8)	191	(3.0)	189	(3.0)	180	(2.9)	214	(3.4)
Haiti	165	(2.6)	169	(2.7)	167	(2.6)	165	(2.6)	171	(2.7)
Ethiopia	155	(2.4)	151	(2.4)	144	(2.2)	142	(2.3)	159	(2.6)
Honduras	130	(2.0)	149	(2.3)	140	(2.2)	142	(2.3)	122	(2.0)
Myanmar	123	(1.9)	125	(2.0)	120	(1.9)	102	(1.6)	105	(1.7)
El Salvador	100	(1.6)	117	(1.8)	110	(1.7)	97	(1.5)	96	(1.5)
Somalia	97	(1.5)	102	(1.6)	85	(1.3)	105	(1.7)	87	(1.4)
Korea, Republic of	84	(1.3)	97	(1.5)	90	(1.4)	92	(1.5)	99	(1.6)
Pakistan	86	(1.3)	84	(1.3)	85	(1.3)	89	(1.4)	78	(1.3)
Nepal	80	(1.3)	104	(1.6)	79	(1.2)	78	(1.2)	72	(1.2)
Peru	63	(1.0)	67	(1.1)	82	(1.3)	91	(1.5)	91	(1.5)
Ecuador	82	(1.3)	69	(1.1)	71	(1.1)	74	(1.2)	80	(1.3)
Laos	73	(1.1)	70	(1.1)	68	(1.1)	70	(1.1)	89	(1.4)
Nigeria	85	(1.3)	91	(1.4)	74	(1.2)	51	(0.8)	68	(1.1)
Cambodia	64	(1.0)	67	(1.1)	87	(1.4)	74	(1.2)	71	(1.1)
Dominican Republic	69	(1.1)	60	(0.9)	64	(1.0)	68	(1.1)	62	(1.0)
Bangladesh	70	(1.1)	60	(0.9)	67	(1.0)	42	(0.7)	71	(1.1)
Bhutan	54	(0.8)	32	(0.5)	46	(0.7)	63	(1.0)	57	(0.9)
Kenya	46	(0.7)	46	(0.7)	50	(0.8)	49	(0.8)	48	(0.8)
Colombia	37	(0.6)	50	(0.8)	45	(0.7)	36	(0.6)	37	(0.6)
Thailand	35	(0.5)	43	(0.7)	39	(0.6)	48	(0.8)	38	(0.6)
Congo	42	(0.7)	38	(0.6)	42	(0.7)	21	(0.3)	32	(0.5)
Indonesia	29	(0.5)	40	(0.6)	39	(0.6)	29	(0.5)	34	(0.5)
Liberia	33	(0.5)	34	(0.5)	41	(0.6)	28	(0.4)	29	(0.5)
Cuba	21	(0.3)	27	(0.4)	32	(0.5)	44	(0.7)	25	(0.4)
All Others³	836	(13.1)	821	(12.9)	746	(11.6)	848	(13.5)	831	(13.4)

¹Includes persons born outside the United States (including U.S. territories), except persons born to at least one U.S. citizen parent.

²The top 30 countries were selected based on their ranked 5-year average number of TB cases.

³Includes not specified for country of origin.

Note: Data for all years updated through June 1, 2018. Countries are in descending order by total case count for all years combined.

Table 7. Tuberculosis Cases and Percentages by Case Verification Criterion and Site of Disease: United States, 1993–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table7.htm>.

Year	Total cases	Verification criterion ¹								Site of disease ⁵					
		Positive culture		Positive NAA ²		Positive smear		Clinical case definition		Provider diagnosis		Pulmonary ³		Extrapulmonary ⁴	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
1993	25,102	20,306	(80.9)	--	--	185	(0.7)	3,088	(12.3)	1,523	(6.1)	21,153	(84.3)	3,940	(15.7)
1994	24,206	19,507	(80.6)	--	--	189	(0.8)	2,917	(12.1)	1,593	(6.6)	20,318	(83.9)	3,886	(16.1)
1995	22,726	18,265	(80.4)	--	--	189	(0.8)	2,749	(12.1)	1,523	(6.7)	18,887	(83.1)	3,834	(16.9)
1996	21,210	17,154	(80.9)	--	--	131	(0.6)	2,607	(12.3)	1,318	(6.2)	17,387	(82.0)	3,814	(18.0)
1997	19,751	15,979	(80.9)	--	--	155	(0.8)	2,411	(12.2)	1,206	(6.1)	16,239	(82.2)	3,509	(17.8)
1998	18,286	14,789	(80.9)	--	--	155	(0.8)	2,253	(12.3)	1,089	(6.0)	14,801	(81.0)	3,483	(19.0)
1999	17,499	13,994	(80.0)	--	--	172	(1.0)	2,103	(12.0)	1,230	(7.0)	14,065	(80.4)	3,431	(19.6)
2000	16,308	13,013	(79.8)	--	--	148	(0.9)	1,950	(12.0)	1,197	(7.3)	13,085	(80.3)	3,211	(19.7)
2001	15,945	12,750	(80.0)	--	--	123	(0.8)	1,886	(11.8)	1,186	(7.4)	12,724	(79.8)	3,217	(20.2)
2002	15,055	11,974	(79.5)	--	--	104	(0.7)	1,822	(12.1)	1,155	(7.7)	11,901	(79.1)	3,148	(20.9)
2003	14,835	11,683	(78.8)	--	--	116	(0.8)	1,783	(12.0)	1,253	(8.4)	11,805	(79.6)	3,020	(20.4)
2004	14,499	11,327	(78.1)	--	--	80	(0.6)	1,824	(12.6)	1,268	(8.7)	11,524	(79.5)	2,971	(20.5)
2005	14,065	10,957	(77.9)	--	--	96	(0.7)	1,797	(12.8)	1,213	(8.6)	11,125	(79.1)	2,934	(20.9)
2006	13,727	10,744	(78.3)	--	--	93	(0.7)	1,629	(11.9)	1,261	(9.2)	10,852	(79.1)	2,872	(20.9)
2007	13,280	10,425	(78.5)	--	--	69	(0.5)	1,496	(11.3)	1,290	(9.7)	10,590	(79.8)	2,687	(20.2)
2008	12,889	10,020	(77.7)	18	(0.1)	60	(0.5)	1,547	(12.0)	1,244	(9.7)	10,233	(79.4)	2,652	(20.6)
2009	11,514	8,880	(77.1)	57	(0.5)	73	(0.6)	1,777	(15.4)	727	(6.3)	9,004	(78.3)	2,496	(21.7)
2010	11,100	8,412	(75.8)	107	(1.0)	69	(0.6)	1,867	(16.8)	645	(5.8)	8,676	(78.2)	2,420	(21.8)
2011	10,504	8,084	(77.0)	121	(1.2)	61	(0.6)	1,676	(16.0)	562	(5.4)	8,323	(79.3)	2,177	(20.7)
2012	9,935	7,626	(76.8)	118	(1.2)	38	(0.4)	1,639	(16.5)	514	(5.2)	7,845	(79.0)	2,080	(21.0)
2013	9,561	7,368	(77.1)	149	(1.6)	47	(0.5)	1,510	(15.8)	487	(5.1)	7,582	(79.3)	1,976	(20.7)
2014	9,398	7,232	(77.0)	161	(1.7)	45	(0.5)	1,493	(15.9)	467	(5.0)	7,462	(79.5)	1,929	(20.5)
2015	9,547	7,418	(77.7)	174	(1.8)	44	(0.5)	1,466	(15.4)	445	(4.7)	7,633	(80.0)	1,910	(20.0)
2016	9,253	7,171	(77.5)	188	(2.0)	37	(0.4)	1,381	(14.9)	476	(5.1)	7,370	(79.8)	1,871	(20.2)
2017	9,105	7,111	(78.1)	226	(2.5)	38	(0.4)	1,284	(14.1)	446	(4.9)	7,204	(79.2)	1,887	(20.8)

¹Based on the public health surveillance case definition for tuberculosis; see Appendix A.

²Nucleic Acid Amplification test. Information not collected before 2008.

³Includes all cases among persons with pulmonary as the only site of disease, and persons with both pulmonary and extrapulmonary sites of disease.

⁴Includes cases among persons with extrapulmonary TB disease only.

⁵Excludes missing and unknowns.

Note: See Technical Notes.

Data for all years updated through June 1, 2018.

Table 8. Tuberculosis Cases and Percentages, by Resistance to Isoniazid (INH)¹, Origin of Birth, and Previous History of TB: United States, 1993–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table8.htm>.

Year	All INH-resistant ²	Isoniazid resistant TB cases																	
		Total INH-resistant						U.S.-born INH-resistant ³						Non-U.S.-born ^{3,4} INH-resistant					
		Previous TB			No previous TB			Previous TB			No previous TB			Previous TB			No previous TB		
Eligible	No.	(%)	Eligible	No.	(%)	Eligible	No.	(%)	Eligible	No.	(%)	Eligible	No.	(%)	Eligible	No.	(%)		
1993	1,534	982	161	(16.4)	16,601	1,367	(8.2)	668	83	(12.4)	11,808	789	(6.7)	301	75	(24.9)	4,665	564	(12.1)
1994	1,543	1033	175	(16.9)	16,417	1,352	(8.2)	693	81	(11.7)	11,009	708	(6.4)	336	93	(27.7)	5,291	632	(11.9)
1995	1,351	958	168	(17.5)	16,023	1,173	(7.3)	592	77	(13.0)	10,340	554	(5.4)	364	91	(25.0)	5,652	618	(10.9)
1996	1,284	862	142	(16.5)	15,360	1,133	(7.4)	559	68	(12.2)	9,637	495	(5.1)	303	74	(24.4)	5,676	637	(11.2)
1997	1,195	742	109	(14.7)	14,449	1,078	(7.5)	455	35	(7.7)	8,696	435	(5.0)	286	74	(25.9)	5,708	640	(11.2)
1998	1,120	749	98	(13.1)	13,420	1,011	(7.5)	485	38	(7.8)	7,695	366	(4.8)	262	60	(22.9)	5,692	643	(11.3)
1999	1,000	669	82	(12.3)	12,659	900	(7.1)	382	25	(6.5)	7,011	284	(4.1)	284	55	(19.4)	5,596	614	(11.0)
2000	981	632	84	(13.3)	11,829	889	(7.5)	360	22	(6.1)	6,141	269	(4.4)	272	62	(22.8)	5,659	617	(10.9)
2001	897	629	87	(13.8)	11,514	800	(6.9)	324	28	(8.6)	5,570	241	(4.3)	302	59	(19.5)	5,908	558	(9.4)
2002	912	570	80	(14.0)	10,820	826	(7.6)	303	23	(7.6)	5,059	206	(4.1)	265	57	(21.5)	5,720	619	(10.8)
2003	904	524	65	(12.4)	10,752	823	(7.7)	253	16	(6.3)	4,853	213	(4.4)	271	49	(18.1)	5,869	606	(10.3)
2004	872	537	64	(11.9)	10,482	801	(7.6)	274	15	(5.5)	4,683	214	(4.6)	263	49	(18.6)	5,789	587	(10.1)
2005	842	507	70	(13.8)	10,065	761	(7.6)	240	18	(7.5)	4,396	188	(4.3)	267	52	(19.5)	5,652	567	(10.0)
2006	845	493	67	(13.6)	9,907	770	(7.8)	203	9	(4.4)	4,126	173	(4.2)	289	57	(19.7)	5,765	596	(10.3)
2007	798	496	71	(14.3)	9,646	715	(7.4)	206	14	(6.8)	3,837	163	(4.2)	288	57	(19.8)	5,755	548	(9.5)
2008	836	429	57	(13.3)	9,306	775	(8.3)	170	13	(7.6)	3,647	189	(5.2)	259	44	(17.0)	5,653	585	(10.3)
2009	763	341	52	(15.2)	7,739	651	(8.4)	115	6	(5.2)	3,014	187	(6.2)	225	46	(20.4)	4,717	464	(9.8)
2010	693	359	63	(17.5)	7,769	621	(8.0)	131	13	(9.9)	2,931	164	(5.6)	228	50	(21.9)	4,832	457	(9.5)
2011	754	345	59	(17.1)	7,554	688	(9.1)	137	9	(6.6)	2,702	173	(6.4)	208	50	(24.0)	4,849	515	(10.6)
2012	692	356	55	(15.4)	7,083	637	(9.0)	127	8	(6.3)	2,523	151	(6.0)	229	47	(20.5)	4,560	486	(10.7)
2013	675	301	48	(15.9)	6,866	622	(9.1)	98	8	(8.2)	2,286	131	(5.7)	203	40	(19.7)	4,575	491	(10.7)
2014	691	336	63	(18.8)	6,746	624	(9.2)	95	5	(5.3)	2,187	164	(7.5)	241	58	(24.1)	4,555	460	(10.1)
2015	683	317	51	(16.1)	6,961	631	(9.1)	100	7	(7.0)	2,194	149	(6.8)	217	44	(20.3)	4,762	481	(10.1)
2016	650	300	56	(18.7)	6,687	590	(8.8)	82	6	(7.3)	2,048	124	(6.1)	218	50	(22.9)	4,632	466	(10.1)
2017	608	267	53	(19.9)	6,216	545	(8.8)	53	2	(3.8)	1,744	95	(5.4)	214	51	(23.8)	4,462	449	(10.1)

¹Resistance to at least isoniazid. Isolates may be resistant to other drugs. Excludes cases with susceptibility testing not done or unknown for isoniazid. Cases have been susceptibility tested to at least isoniazid and rifampin.

²This column provides an overall total of all INH-resistant cases, including those where previous history of TB is unknown and origin or birth is unknown.

³Excludes cases where previous history of TB is unknown and cases where origin of birth is unknown.

⁴Includes persons born outside the United States (including the U.S. territories).

Note: Data for all years updated through June 1, 2018.

Table 9. Tuberculosis Cases and Percentages, by Multidrug Resistance (MDR)¹, Origin of Birth, and Previous History of TB: United States, 1993–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table9.htm>.

Year	All MDR ²	Multidrug resistant TB cases																	
		Total MDR ³						U.S.-born MDR ³						Non-U.S.-born ^{3,4} MDR					
		Previous TB			No previous TB			Previous TB			No previous TB			Previous TB			No previous TB		
Eligible	No.	(%)	Eligible	No.	(%)	Eligible	No.	(%)	Eligible	No.	(%)	Eligible	No.	(%)	Eligible	No.	(%)		
1993	484	982	76	(7.7)	16,601	407	(2.5)	668	30	(4.5)	11,808	301	(2.5)	301	46	(15.3)	4,665	103	(2.2)
1994	431	1,033	74	(7.2)	16,417	353	(2.2)	693	35	(5.1)	11,009	238	(2.2)	336	38	(11.3)	5,291	110	(2.1)
1995	327	958	70	(7.3)	16,023	254	(1.6)	592	28	(4.7)	10,340	169	(1.6)	364	42	(11.5)	5,652	85	(1.5)
1996	250	862	43	(5.0)	15,360	207	(1.3)	559	21	(3.8)	9,637	104	(1.1)	303	22	(7.3)	5,676	102	(1.8)
1997	201	742	44	(5.9)	14,449	155	(1.1)	455	12	(2.6)	8,696	76	(0.9)	286	32	(11.2)	5,708	79	(1.4)
1998	155	749	23	(3.1)	13,420	132	(1.0)	485	6	(1.2)	7,695	55	(0.7)	262	17	(6.5)	5,692	76	(1.3)
1999	157	669	28	(4.2)	12,659	127	(1.0)	382	6	(1.6)	7,011	39	(0.6)	284	22	(7.7)	5,596	88	(1.6)
2000	146	632	26	(4.1)	11,829	120	(1.0)	360	2	(0.6)	6,141	40	(0.7)	272	24	(8.8)	5,659	80	(1.4)
2001	151	629	33	(5.2)	11,514	115	(1.0)	324	7	(2.2)	5,570	34	(0.6)	302	26	(8.6)	5,908	81	(1.4)
2002	158	570	26	(4.6)	10,820	132	(1.2)	303	3	(1.0)	5,059	35	(0.7)	265	23	(8.7)	5,720	97	(1.7)
2003	119	524	21	(4.0)	10,752	94	(0.9)	253	2	(0.8)	4,853	23	(0.5)	271	19	(7.0)	5,869	70	(1.2)
2004	128	537	27	(5.0)	10,482	100	(1.0)	274	4	(1.5)	4,683	26	(0.6)	263	23	(8.7)	5,789	74	(1.3)
2005	125	507	23	(4.5)	10,065	98	(1.0)	240	2	(0.8)	4,396	20	(0.5)	267	21	(7.9)	5,652	77	(1.4)
2006	124	493	20	(4.1)	9,907	103	(1.0)	203	1	(0.5)	4,126	19	(0.5)	289	19	(6.6)	5,765	84	(1.5)
2007	124	496	19	(3.8)	9,646	101	(1.0)	206	3	(1.5)	3,837	18	(0.5)	288	16	(5.6)	5,755	83	(1.4)
2008	107	429	19	(4.4)	9,306	88	(0.9)	170	3	(1.8)	3,647	21	(0.6)	259	16	(6.2)	5,653	67	(1.2)
2009	115	341	19	(5.6)	7,739	90	(1.2)	115	1	(0.9)	3,014	12	(0.4)	225	18	(8.0)	4,717	78	(1.7)
2010	106	359	17	(4.7)	7,769	87	(1.1)	131	3	(2.3)	2,931	14	(0.5)	228	14	(6.1)	4,832	73	(1.5)
2011	128	345	27	(7.8)	7,554	101	(1.3)	137	1	(0.7)	2,702	17	(0.6)	208	26	(12.5)	4,849	84	(1.7)
2012	89	356	12	(3.4)	7,083	77	(1.1)	127	0	(0.0)	2,523	13	(0.5)	229	12	(5.2)	4,560	64	(1.4)
2013	96	301	12	(4.0)	6,866	83	(1.2)	98	2	(2.0)	2,286	7	(0.3)	203	10	(4.9)	4,575	76	(1.7)
2014	94	336	24	(7.1)	6,746	70	(1.0)	95	0	(0.0)	2,187	10	(0.5)	241	24	(10.0)	4,555	60	(1.3)
2015	88	317	16	(5.0)	6,961	72	(1.0)	100	3	(3.0)	2,194	10	(0.5)	217	13	(6.0)	4,762	62	(1.3)
2016	97	300	18	(6.0)	6,687	78	(1.2)	82	0	(0.0)	2,048	8	(0.4)	218	18	(8.3)	4,632	70	(1.5)
2017	123	267	24	(9.0)	6,216	97	(1.6)	53	1	(1.9)	1,744	15	(0.9)	214	23	(10.7)	4,462	82	(1.8)

¹Resistance to at least isoniazid and rifampin. Isolates may be resistant to other drugs. Excludes cases with susceptibility testing not done or unknown for isoniazid and rifampin. Cases have been susceptibility tested to at least isoniazid and rifampin.

²This column provides an overall total of all MDR cases, including those whose previous history of TB is unknown and origin of birth is unknown.

³Excludes cases where previous history of TB is unknown and cases where origin of birth is unknown.

⁴Includes persons born outside the United States (including the U.S. territories), except persons born to at least one U.S. citizen parent.

Note: Data for all years updated through June 1, 2018. In 2017, two non-U.S.-born cases had missing information on previous TB status and were excluded from the non-U.S.-born columns.

Table 10. Percentages of Tuberculosis Cases, by Initial Drug Regimen, Use of Directly Observed Therapy (DOT), and Completion of Therapy (COT): United States, 1993–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table10.htm>.

Year	Initial Drug Regimen ^{1,2}		Directly observed therapy ³		Therapy ≤1 year indicated ⁴	
	IRZE	Multi (4+) drug regimen ⁵	DOT only	Both DOT and self-administered	COT ≤1 year	COT ever
1993	(40.3)	(4.9)	(21.7)	(14.4)	(63.4)	(86.0)
1994	(55.7)	(5.5)	(28.1)	(20.5)	(68.6)	(86.8)
1995	(62.7)	(4.8)	(37.3)	(21.5)	(74.1)	(89.2)
1996	(67.3)	(4.4)	(42.5)	(22.4)	(76.8)	(90.2)
1997	(71.9)	(4.3)	(47.0)	(23.8)	(78.7)	(91.0)
1998	(74.3)	(4.3)	(47.7)	(26.6)	(81.2)	(92.2)
1999	(76.9)	(4.7)	(49.4)	(27.6)	(81.4)	(92.2)
2000	(78.5)	(4.2)	(52.5)	(25.8)	(82.2)	(92.5)
2001	(79.8)	(3.9)	(53.6)	(27.5)	(82.5)	(92.7)
2002	(80.3)	(4.3)	(55.4)	(27.8)	(83.0)	(92.5)
2003	(81.3)	(4.7)	(56.5)	(28.5)	(83.6)	(92.8)
2004	(82.4)	(4.9)	(58.9)	(27.7)	(84.3)	(92.6)
2005	(83.7)	(5.0)	(57.9)	(29.6)	(84.0)	(92.5)
2006	(83.3)	(6.6)	(57.5)	(30.4)	(84.8)	(93.2)
2007	(83.8)	(6.5)	(56.3)	(32.9)	(85.6)	(93.9)
2008	(84.2)	(7.6)	(56.4)	(33.5)	(86.1)	(93.3)
2009	(84.3)	(7.8)	(59.6)	(30.3)	(88.8)	(95.6)
2010	(84.5)	(8.1)	(59.3)	(31.0)	(89.6)	(96.1)
2011 ⁶	(85.2)	(8.1)	(62.2)	(29.2)	(89.7)	(96.4)
2012 ⁶	(85.4)	(9.0)	(61.8)	(29.1)	(90.1)	(96.4)
2013 ⁶	(84.6)	(9.6)	(63.2)	(28.9)	(89.9)	(96.3)
2014 ⁶	(85.3)	(9.1)	(63.8)	(29.1)	(90.2)	(96.8)
2015 ⁶	(85.3)	(9.2)	(65.1)	(28.5)	(89.5)	(95.8)
2016 ⁶	(85.1)	(10.1)	--	--	--	--
2017 ⁶	(83.2)	(10.2)	--	--	--	--

¹Includes persons alive at diagnosis.

²I, isoniazid; R, rifampin; Z, pyrazinamide; E, ethambutol. Excludes cases with no information on initial drug regimen. In 2017, 1.3% received no initial drug therapy and 0.1% were started on one drug.

³Includes persons alive at diagnosis with initial drug regimen of one or more drugs prescribed.

⁴Therapy ≤1 year indicated in persons alive at diagnosis with an initial drug regimen of one or more drugs prescribed, and who did not die within one year of initiating therapy. Persons with initial isolate rifampin resistant, or patient with bone and joint disease, meningeal disease or disease of the central nervous system, or pediatric patient (age <15) 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 were excluded.

⁵Indicates at least a four drug regimen that is not IRZE only

⁶Beginning in 2011, those who moved out of the country during treatment are excluded from the denominator of those eligible for COT.

Note: Data as of June 1, 2018.

See Technical Notes for details and for description of COT calculation.

See Surveillance Slides #24 and #25.

Table 11. Tuberculosis Cases¹ and Percentages Among Persons with HIV Test Results² and with HIV Coinfection by Age Group: United States, 1993–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table11.htm>.

Year	25–44 years old				All ages					
	Total No.	HIV test results		HIV positive		Total No.	HIV test results		HIV positive	
		No.	(%)	No.	(%)		No.	(%)	No.	(%)
1993	9,329	4,211	(45.1)	2,633	(62.5)	24,052	7,185	(29.9)	3,466	(48.2)
1994	8,805	4,288	(48.7)	2,524	(58.9)	23,273	7,644	(32.8)	3,403	(44.5)
1995	8,016	4,156	(51.8)	2,063	(49.6)	21,882	7,940	(36.3)	2,869	(36.1)
1996	7,400	4,246	(57.4)	1,757	(41.4)	20,441	8,595	(42.0)	2,461	(28.6)
1997	6,757	4,058	(60.1)	1,407	(34.7)	19,082	8,593	(45.0)	1,999	(23.3)
1998	6,261	3,810	(60.9)	1,194	(31.3)	17,745	8,158	(46.0)	1,755	(21.5)
1999	5,983	3,752	(62.7)	1,125	(30.0)	16,968	8,295	(48.9)	1,658	(20.0)
2000	5,499	3,476	(63.2)	917	(26.4)	15,888	7,990	(50.3)	1,398	(17.5)
2001	5,550	3,544	(63.9)	892	(25.2)	15,567	8,007	(51.4)	1,369	(17.1)
2002	5,237	3,475	(66.4)	822	(23.7)	14,725	7,924	(53.8)	1,344	(17.0)
2003	5,028	3,396	(67.5)	786	(23.1)	14,509	8,037	(55.4)	1,280	(15.9)
2004	4,886	3,399	(69.6)	655	(19.3)	14,208	8,415	(59.2)	1,150	(13.7)
2005	4,696	3,251	(69.2)	598	(18.4)	13,771	8,148	(59.2)	1,017	(12.5)
2006	4,647	3,269	(70.3)	546	(16.7)	13,411	8,230	(61.4)	927	(11.3)
2007	4,264	3,131	(73.4)	467	(14.9)	12,991	8,264	(63.6)	845	(10.2)
2008	4,203	3,089	(73.5)	399	(12.9)	12,638	8,165	(64.6)	792	(9.7)
2009	3,853	2,834	(73.6)	384	(13.5)	11,263	7,332	(65.1)	687	(9.4)
2010	3,615	2,757	(76.3)	311	(11.3)	10,854	7,426	(68.4)	594	(8.0)
2011 ³	3,331	3,046	(91.4)	330	(10.8)	10,263	8,707	(84.8)	648	(7.4)
2012	3,096	2,880	(93.0)	327	(11.4)	9,723	8,429	(86.7)	610	(7.2)
2013	2,939	2,789	(94.9)	258	(9.3)	9,348	8,361	(89.4)	536	(6.4)
2014	2,803	2,662	(95.0)	230	(8.6)	9,203	8,274	(89.9)	491	(5.9)
2015	2,844	2,721	(95.7)	205	(7.5)	9,339	8,436	(90.3)	456	(5.4)
2016	2,801	2,668	(95.3)	228	(8.5)	9,041	8,188	(90.6)	452	(5.5)
2017	2,741	2,560	(93.4)	236	(9.2)	8,934	7,945	(88.9)	439	(5.5)

¹Persons not dead at diagnosis.

²Includes persons with positive, negative, or indeterminate HIV test results and persons from California with co-diagnosis of TB and AIDS for the period 1993–2004, and those persons not dead at diagnosis. Rhode Island did not report HIV test results for years 1993–1997. HIV test results are not included for Vermont for years 2007–2013. HIV test results for California are not included for years 2005–2010.

³California began reporting HIV test results to CDC in 2011.

Note: Data as of June 1, 2018.

See Surveillance Slides #20 and #21.

HIV, human immunodeficiency virus.

Table 12. Tuberculosis Cases and Percentages, by Reason Tuberculosis Therapy Was Stopped: United States, 1993–2015

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table12.htm>.

Year	Total cases ¹		Completed Therapy		Adverse event		Moved ²		Lost		Refused		Died ³		Unknown ⁴	
	No.	No. (%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
1993	23,740	18,043 (76.0)	0	(0.0)	1,120	(4.7)	1,086	(4.6)	223	(0.9)	3,053	(12.9)	215	(0.9)		
1994	23,052	17,764 (77.1)	0	(0.0)	1,194	(5.2)	740	(3.2)	183	(0.8)	2,743	(11.9)	428	(1.9)		
1995	21,705	17,306 (79.7)	0	(0.0)	969	(4.5)	570	(2.6)	155	(0.7)	2,396	(11.0)	309	(1.4)		
1996	20,298	16,528 (81.4)	0	(0.0)	783	(3.9)	525	(2.6)	156	(0.8)	1,998	(9.8)	308	(1.5)		
1997	18,930	15,673 (82.8)	0	(0.0)	667	(3.5)	444	(2.3)	119	(0.6)	1,755	(9.3)	272	(1.4)		
1998	17,583	14,766 (84.0)	0	(0.0)	533	(3.0)	411	(2.3)	104	(0.6)	1,579	(9.0)	190	(1.1)		
1999	16,861	14,234 (84.4)	0	(0.0)	456	(2.7)	359	(2.1)	104	(0.6)	1,437	(8.5)	271	(1.6)		
2000	15,784	13,407 (84.9)	0	(0.0)	406	(2.6)	397	(2.5)	112	(0.7)	1,294	(8.2)	168	(1.1)		
2001	15,409	13,242 (85.9)	0	(0.0)	378	(2.5)	402	(2.6)	99	(0.6)	1,121	(7.3)	167	(1.1)		
2002	14,564	12,482 (85.7)	0	(0.0)	336	(2.3)	412	(2.8)	87	(0.6)	1,080	(7.4)	167	(1.1)		
2003	14,379	12,418 (86.4)	0	(0.0)	313	(2.2)	390	(2.7)	84	(0.6)	994	(6.9)	180	(1.3)		
2004	14,080	12,118 (86.1)	0	(0.0)	337	(2.4)	370	(2.6)	82	(0.6)	975	(6.9)	198	(1.4)		
2005	13,677	11,727 (85.7)	1	(0.0)	323	(2.4)	340	(2.5)	90	(0.7)	986	(7.2)	210	(1.5)		
2006	13,316	11,540 (86.7)	0	(0.0)	292	(2.2)	358	(2.7)	79	(0.6)	939	(7.1)	108	(0.8)		
2007	12,905	11,346 (87.9)	0	(0.0)	241	(1.9)	327	(2.5)	73	(0.6)	819	(6.3)	99	(0.8)		
2008	12,549	10,886 (86.7)	7	(0.1)	256	(2.0)	329	(2.6)	77	(0.6)	843	(6.7)	151	(1.2)		
2009	11,179	9,826 (87.9)	22	(0.2)	96	(0.9)	165	(1.5)	82	(0.7)	682	(6.1)	306	(2.7)		
2010	10,780	9,490 (88.0)	31	(0.3)	—	—	161	(1.5)	62	(0.6)	658	(6.1)	378	(3.5)		
2011	10,204	8,984 (88.0)	28	(0.3)	—	—	126	(1.2)	70	(0.7)	688	(6.7)	308	(3.0)		
2012	9,671	8,509 (88.0)	31	(0.3)	—	—	123	(1.3)	58	(0.6)	611	(6.3)	339	(3.5)		
2013	9,280	8,181 (88.2)	40	(0.4)	—	—	101	(1.1)	68	(0.7)	582	(6.3)	308	(3.3)		
2014	9,162	8,134 (88.8)	18	(0.2)	—	—	83	(0.9)	83	(0.9)	567	(6.2)	277	(3.0)		
2015	9,288	8,133 (87.6)	17	(0.2)	—	—	108	(1.2)	71	(0.8)	572	(6.2)	387	(4.2)		

¹Includes all cases in persons reported as alive at diagnosis and taking one or more TB drugs.

²In 2009, the "moved" response option was removed from the RVCT's reason therapy stopped variable; however, not all reporting jurisdictions had transitioned to this new variable until 2010; see Technical Notes for details.

³Died = died of any cause (not only TB).

⁴Includes cases in persons reporting reason therapy stopped = other, missing, unknown, or moved (from 2010).

Note: Data for all years are updated through June 1, 2018.

Data complete to 2015. See Technical Notes for details.

Table 13. Deaths Among Reported Tuberculosis Cases: United States, 2010–2015

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table13.htm>.

Year	Total		Dead at Diagnosis				Died after diagnosis			
	Total deaths reported	Deaths related to TB disease or therapy ¹	Total dead at TB diagnosis	TB a cause of death	TB not a cause of death	Cause of death unknown/missing	Total died during therapy	Related to TB therapy/disease ²	Unrelated to TB therapy/disease	Cause of death unknown/missing
	No.	(%)	No.	No.	(%)	No.	No.	(%)	No.	(%)
2010	917	320 (34.9)	246	79 (32.1)	124 (50.4)	43 (17.5)	671	241 (35.9)	313 (46.6)	117 (17.4)
2011	947	349 (36.9)	241	89 (36.9)	102 (42.3)	50 (20.7)	706	260 (36.8)	317 (44.9)	129 (18.3)
2012	836	280 (33.5)	212	65 (30.7)	98 (46.2)	49 (23.1)	624	215 (34.5)	297 (47.6)	112 (17.9)
2013	812	285 (35.1)	213	64 (30.0)	110 (51.6)	39 (18.3)	599	221 (36.9)	292 (48.7)	86 (14.4)
2014	774	287 (37.1)	195	62 (31.8)	100 (51.3)	33 (16.9)	579	225 (38.9)	252 (43.5)	102 (17.6)
2015	792	281 (35.5)	208	64 (30.8)	102 (49.0)	42 (20.2)	584	217 (37.2)	269 (46.1)	98 (16.8)

¹Includes patients who were dead at diagnosis or died during therapy, for which TB or TB therapy was indicated as a cause of death.

²11 patient deaths were related to TB therapy in 2015.

Table 14. Sputum Culture Conversion: United States, 2010–2015

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table14.htm>.

Year	Total sputum culture positive ¹		Sputum culture conversion documented ²		Sputum culture conversion not documented ³		Sputum culture unknown		Cannot produce sputum		Sputum not collected		Died		Refused		Lost to follow-up		Other		Unknown	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
2010	5,774	4,966 (86.0)	721	12.5 (21.5)	87	1.5 (0.7)	70	9.7 (11.2)	175	3.0 (3.7)	243	4.2 (5.5)	12	0.2 (0.3)	40	0.7 (0.9)	141	2.4 (3.3)	141	2.4 (3.3)	40	0.7 (0.9)
2011	5,653	4,910 (86.9)	706	12.5 (21.5)	37	0.7 (1.2)	60	8.5 (11.2)	158	2.8 (3.6)	254	4.5 (5.5)	5	0.1 (0.1)	39	0.7 (0.9)	162	2.9 (3.3)	162	2.9 (3.3)	28	0.5 (0.6)
2012	5,286	4,600 (87.0)	603	11.4 (21.4)	83	1.6 (2.7)	55	9.0 (14.2)	164	3.1 (4.2)	206	3.9 (5.0)	4	0.1 (0.1)	24	0.5 (0.6)	120	2.3 (2.6)	120	2.3 (2.6)	30	0.6 (0.7)
2013	5,237	4,616 (88.1)	574	11.0 (20.9)	47	0.9 (1.6)	46	8.0 (13.9)	117	2.2 (3.4)	226	4.3 (6.5)	12	0.2 (0.3)	22	0.4 (0.7)	132	2.5 (3.8)	132	2.5 (3.8)	19	0.4 (0.7)
2014	5,165	4,611 (89.3)	511	9.9 (19.2)	43	0.8 (1.6)	28	5.5 (10.8)	121	2.3 (4.5)	217	4.2 (8.1)	9	0.2 (0.3)	18	0.3 (0.6)	97	1.9 (3.5)	97	1.9 (3.5)	21	0.4 (0.7)
2015	5,278	4,644 (88.0)	519	9.8 (18.7)	115	2.2 (4.2)	47	9.1 (17.3)	120	2.3 (4.3)	204	3.9 (7.2)	6	0.1 (0.2)	18	0.3 (0.6)	85	1.6 (3.0)	85	1.6 (3.0)	39	0.7 (1.3)

¹Among persons who were alive at diagnosis and had positive sputum culture.

²Among persons who had sputum culture conversion documented at any time.

³Among persons who were alive at diagnosis, had positive culture, and did not have documented culture conversion (excludes patients with unknown culture conversion).

Table 15. Extrapulmonary Tuberculosis Cases and Percentages by Site of Disease: United States, 2010–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table15.htm>.

Year	Total		Site of disease																	
	Total extrapulmonary cases ¹	Total sites ²	Pleural	Lymphatic	Bone or joint	Genitourinary	Meningeal	Peritoneal	Laryngeal	Other										
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
2010	2,420	2,525 (104.8)	397	16.4 (6.5)	1,013	40.1 (15.7)	273	11.2 (4.3)	117	4.8 (1.8)	138	5.7 (2.2)	140	5.8 (2.2)	2	0.1 (0.0)	2	0.1 (0.0)	445	18.4 (7.2)
2011	2,177	2,298 (105.5)	391	17.9 (8.2)	866	39.8 (18.3)	255	11.7 (5.4)	118	5.4 (2.5)	132	6.1 (2.8)	122	5.6 (2.6)	3	0.1 (0.0)	3	0.1 (0.0)	411	18.9 (8.7)
2012	2,080	2,190 (105.3)	365	17.5 (8.4)	843	40.5 (19.4)	227	10.9 (5.2)	111	5.3 (2.5)	103	4.9 (2.3)	126	6.0 (2.9)	4	0.2 (0.1)	4	0.2 (0.1)	411	19.8 (9.0)
2013	1,976	2,088 (105.7)	356	18.0 (9.1)	749	37.9 (19.2)	226	11.4 (5.8)	103	5.2 (2.6)	109	5.5 (2.8)	122	6.1 (3.1)	4	0.2 (0.1)	4	0.2 (0.1)	419	21.2 (10.7)
2014	1,929	2,036 (105.5)	333	17.3 (8.9)	777	40.3 (21.4)	212	10.9 (5.7)	99	5.1 (2.6)	98	5.1 (2.6)	117	6.0 (3.1)	3	0.2 (0.1)	4	0.2 (0.1)	396	20.5 (10.6)
2015	1,910	2,014 (105.4)	341	17.9 (9.4)	721	37.8 (19.8)	198	10.4 (5.4)	92	4.8 (2.5)	92	4.8 (2.5)	125	6.5 (3.4)	3	0.2 (0.1)	3	0.2 (0.1)	442	23.2 (12.1)
2016	1,871	1,976 (105.6)	324	17.3 (9.3)	704	37.6 (20.0)	192	10.3 (5.5)	92	4.9 (2.6)	85	4.5 (2.4)	121	6.5 (3.5)	2	0.1 (0.0)	2	0.1 (0.0)	456	24.4 (12.5)
2017	1,887	2,011 (106.6)	313	16.6 (8.8)	761	40.4 (21.4)	186	9.8 (5.2)	83	4.4 (2.3)	87	4.6 (2.4)	118	6.3 (3.3)	0	0.0 (0.0)	0	0.0 (0.0)	463	24.6 (13.0)

¹Excludes cases with pulmonary site of disease and cases with site not stated.

²patient might have more than one extrapulmonary site of disease.

See Technical Notes.

Table 16. National Tuberculosis Genotyping Surveillance Coverage¹: United States, 2004–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table16.htm>.

Year	Reported TB Cases No.	Reported Culture-Positive Cases No.	Cases with Genotype Results No.	Genotype Surveillance Coverage (%)
2004	14,499	11,327	5,954	52.6
2005	14,065	10,957	7,500	68.4
2006	13,727	10,744	7,528	70.1
2007	13,280	10,425	8,428	80.8
2008	12,889	10,020	8,177	81.6
2009	11,514	8,880	7,715	86.9
2010	11,100	8,412	7,704	91.6
2011	10,504	8,084	7,617	94.2
2012	9,935	7,626	7,235	94.9
2013	9,561	7,368	7,063	95.9
2014	9,398	7,232	6,991	96.7
2015	9,547	7,418	7,206	97.1
2016	9,253	7,171	6,986	97.4
2017	9,105	7,111	6,851	96.3

¹Genotype surveillance coverage is defined as the percentage of all culture positive tuberculosis (TB) cases for which there was a genotyped isolate.

Note: This table reflects genotyping surveillance coverage for the 50 states and the District of Columbia; for genotyping surveillance coverage of the U.S.-affiliated areas, please see Table 17. See Surveillance Slide [#27](#).

Table 17. National Tuberculosis Genotyping Surveillance Coverage¹: United States-Affiliated Areas², 2004–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table17.htm>.

Year	Reported TB Cases No.	Reported Culture-Positive Cases No.	Cases with Genotype Result No.	Genotype Surveillance Coverage (%)
2004	288	213	19	8.9
2005	388	237	95	40.1
2006	344	211	84	39.8
2007	527	181	85	47.0
2008	553	240	73	30.4
2009	534	237	206	86.9
2010	618	310	279	90.0
2011	463	230	192	83.5
2012	493	248	225	90.7
2013	421	230	208	90.4
2014	462	234	220	94.0
2015	412	152	134	88.2
2016	501	218	200	91.7
2017	512	242	213	88.0

¹Genotype surveillance coverage is defined as the percentage of all culture positive tuberculosis (TB) cases for which there was a genotyped isolate.

²The U.S.-affiliated areas include: American Samoa, Northern Mariana Islands, Federated States of Micronesia, Guam, Marshall Islands, Palau, Puerto Rico, and U.S. Virgin Islands.

Table 18. Genotyped Tuberculosis Cases with *Mycobacterium bovis*¹ by Origin of Birth: United States, 2004–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table18.htm>.

Year	Total No. Genotyped Cases	<i>Mycobacterium bovis</i> cases					
		Total		U.S-born		Non-U.S.–born	
		No. ²	(%)	No.	(%) ³	No.	(%) ³
2004	5,954	73	(1.2)	23	(31.5)	50	(68.5)
2005	7,500	80	(1.1)	22	(27.5)	58	(72.5)
2006	7,528	116	(1.5)	25	(21.6)	90	(77.6)
2007	8,428	113	(1.3)	17	(15.0)	95	(84.1)
2008	8,177	129	(1.6)	29	(22.5)	100	(77.5)
2009	7,715	113	(1.5)	27	(23.9)	86	(76.1)
2010	7,704	108	(1.4)	20	(18.5)	88	(81.5)
2011	7,617	117	(1.5)	30	(25.6)	87	(74.4)
2012	7,235	109	(1.5)	18	(16.5)	91	(83.5)
2013	7,063	96	(1.4)	22	(22.9)	74	(77.1)
2014	6,991	109	(1.6)	24	(22.0)	85	(78.0)
2015	7,206	125	(1.7)	31	(24.8)	94	(75.2)
2016	6,986	107	(1.5)	19	(17.8)	88	(82.2)
2017	6,851	98	(1.4)	19	(19.4)	78	(79.6)

¹*M. bovis* cases were defined predominantly by spoligotyping results with missing spacers 3, 9, 16, and 39-43. Data exclude 118 cases of Bacillus Calmette-Guérin (BCG) *M. bovis*, which have x, y or z in the second MIRU position.

²This column reports all genotyped *M. bovis* cases, including those where origin of birth is unknown.

³Denominator is all *M. bovis* cases.

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Morbidity Tables, 2017

Table 19. Tuberculosis Cases and Percentages Among Non-U.S.–Born Persons¹, by the Top 30 Countries of Birth and Years in the United States Before TB Diagnosis: United States, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table19.htm>.

Country of birth ²	Total cases	No. Years in United States ³						Unknown/missing					
		<1		1–4		5–9		10–19		≥20		No.	(%)
Total	6,384	1,040	(16.3)	1,062	(16.6)	764	(12.0)	1,153	(18.1)	1,738	(27.2)	627	(9.8)
Mexico	1,210	145	(12.0)	98	(8.1)	104	(8.6)	254	(21.0)	447	(36.9)	162	(13.4)
Philippines	795	86	(10.8)	99	(12.5)	88	(11.1)	168	(21.1)	266	(33.5)	88	(11.1)
India	600	100	(16.7)	149	(24.8)	75	(12.5)	110	(18.3)	108	(18.0)	58	(9.7)
Vietnam	538	57	(10.6)	69	(12.8)	65	(12.1)	75	(13.9)	212	(39.4)	60	(11.2)
China	402	33	(8.2)	73	(18.2)	72	(17.9)	74	(18.4)	124	(30.8)	26	(6.5)
Guatemala	180	35	(19.4)	32	(17.8)	33	(18.3)	40	(22.2)	25	(13.9)	15	(8.3)
Haiti	165	58	(35.2)	22	(13.3)	21	(12.7)	28	(17.0)	24	(14.5)	12	(7.3)
Ethiopia	155	37	(23.9)	38	(24.5)	36	(23.2)	25	(16.1)	3	(1.9)	16	(10.3)
Honduras	130	44	(33.8)	24	(18.5)	12	(9.2)	24	(18.5)	21	(16.2)	5	(3.8)
Myanmar	123	31	(25.2)	32	(26.0)	29	(23.6)	11	(8.9)	9	(7.3)	11	(8.9)
El Salvador	100	15	(15.0)	16	(16.0)	6	(6.0)	20	(20.0)	34	(34.0)	9	(9.0)
Somalia	97	19	(19.6)	29	(29.9)	13	(13.4)	28	(28.9)	6	(6.2)	2	(2.1)
Pakistan	86	14	(16.3)	17	(19.8)	7	(8.1)	14	(16.3)	30	(34.9)	4	(4.7)
Nigeria	85	30	(35.3)	31	(36.5)	3	(3.5)	7	(8.2)	9	(10.6)	5	(5.9)
Korea, Republic of	84	4	(4.8)	4	(4.8)	4	(4.8)	24	(28.6)	45	(53.6)	3	(3.6)
Ecuador	82	11	(13.4)	16	(19.5)	11	(13.4)	20	(24.4)	18	(22.0)	6	(7.3)
Nepal	80	25	(31.3)	31	(38.8)	12	(15.0)	5	(6.3)	1	(1.3)	6	(7.5)
Laos	73	2	(2.7)	0	(0.0)	0	(0.0)	8	(11.0)	50	(68.5)	13	(17.8)
Bangladesh	70	13	(18.6)	20	(28.6)	18	(25.7)	10	(14.3)	6	(8.6)	3	(4.3)
Dominican Republic	69	9	(13.0)	12	(17.4)	3	(4.3)	17	(24.6)	20	(29.0)	8	(11.6)
Cambodia	64	7	(10.9)	4	(6.3)	5	(7.8)	10	(15.6)	28	(43.8)	10	(15.6)
Peru	63	11	(17.5)	13	(20.6)	5	(7.9)	17	(27.0)	14	(22.2)	3	(4.8)
Bhutan	54	8	(14.8)	19	(35.2)	25	(46.3)	0	(0.0)	0	(0.0)	2	(3.7)
Kenya	46	14	(30.4)	16	(34.8)	5	(10.9)	6	(13.0)	1	(2.2)	4	(8.7)
Marshall Islands	46	11	(23.9)	13	(28.3)	7	(15.2)	5	(10.9)	3	(6.5)	7	(15.2)
Congo	42	20	(47.6)	19	(45.2)	2	(4.8)	0	(0.0)	0	(0.0)	1	(2.4)
Afghanistan	38	16	(42.1)	5	(13.2)	0	(0.0)	4	(10.5)	8	(21.1)	5	(13.2)
Colombia	37	5	(13.5)	4	(10.8)	3	(8.1)	7	(18.9)	14	(37.8)	4	(10.8)
Thailand	35	3	(8.6)	2	(5.7)	8	(22.9)	9	(25.7)	9	(25.7)	4	(11.4)
Liberia	33	10	(30.3)	10	(30.3)	4	(12.1)	4	(12.1)	0	(0.0)	5	(15.2)
All Others ⁴	802	167	(20.8)	145	(18.1)	88	(11.0)	129	(16.1)	203	(25.3)	70	(8.7)

¹Includes persons born outside the United States (including the U.S. territories), except persons born to at least one U.S. citizen parent.

²Ranked by total case count.

³Among non-U.S.–born persons, the number of years since arrival in the United States before diagnosis with tuberculosis.

⁴Includes not specified for country of origin.

See Surveillance Slide #14.

Table 20. Tuberculosis Cases and Rates per 100,000 Population, by Hispanic Ethnicity and Non-Hispanic Race, Sex, and Age Group: United States, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table20.htm>.

Race/ethnicity and sex	All ages		Age group													
			Under 5		5–14		15–24		25–44		45–64		≥65		Unknown	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Total cases	9,105	2.8	228	1.1	201	0.5	847	2.0	2,758	3.2	2,758	3.3	2,305	4.5	8	--
Male	5,584	3.5	114	1.1	102	0.5	491	2.2	1,592	3.7	1,803	4.4	1,482	6.6	0	--
Female	3,515	2.1	114	1.2	99	0.5	356	1.7	1,166	2.7	955	2.2	823	2.9	2	--
Unknown	6	--	0	--	0	--	0	--	0	--	0	--	0	--	6	--
Hispanic/Latino¹	2,568	4.4	99	1.9	86	0.8	303	3.1	830	4.7	734	6.3	515	12.2	1	--
Male	1,647	5.5	50	1.9	37	0.7	201	4.0	551	6.0	504	8.8	304	16.7	0	--
Female	921	3.2	49	1.9	49	1.0	102	2.2	279	3.3	230	3.9	211	8.9	1	--
Unknown	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--
American Indian/Alaska Native	94	3.9	6	3.6	5	1.4	12	3.3	19	2.9	31	5.3	20	7.3	1	--
Male	45	3.8	1	1.2	3	1.7	6	3.2	13	3.9	12	4.3	10	8.2	0	--
Female	48	3.9	5	6.2	2	1.2	6	3.3	6	1.8	19	6.2	10	6.7	0	--
Unknown	1	--	0	--	0	--	0	--	0	--	0	--	0	--	1	--
Asian	3,254	17.7	39	3.9	36	1.7	282	11.9	895	14.6	955	20.8	1,045	46.2	2	--
Male	1,925	22.0	18	3.5	20	1.9	157	13.1	453	15.5	591	28.0	686	70.3	0	--
Female	1,328	13.8	21	4.3	16	1.6	125	10.7	442	13.8	364	14.7	359	27.9	1	--
Unknown	1	--	0	--	0	--	0	--	0	--	0	--	0	--	1	--
Black/African American	1,910	4.7	58	2.1	50	0.9	186	3.0	726	6.3	598	5.9	289	6.3	3	--
Male	1,118	5.8	28	2.0	28	1.0	91	2.9	404	7.3	386	8.3	181	9.8	0	--
Female	789	3.7	30	2.2	22	0.8	95	3.1	322	5.4	212	3.9	108	3.9	0	--
Unknown	3	--	0	--	0	--	0	--	0	--	0	--	0	--	3	--
Native Hawaiian/Other Pacific Islander	110	19.1	10	24.5	18	22.0	14	16.5	37	19.9	22	16.9	9	17.0	0	--
Male	60	20.7	7	33.5	10	24.1	8	18.5	14	14.6	16	25.0	5	20.2	0	--
Female	50	17.4	3	15.1	8	19.9	6	14.5	23	25.4	6	9.0	4	14.2	0	--
Unknown	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--
White	1,073	0.5	11	0.1	3	0.0	38	0.2	217	0.4	393	0.7	411	1.1	0	--
Male	724	0.7	8	0.2	2	0.0	20	0.2	134	0.5	275	1.0	285	1.6	0	--
Female	349	0.3	3	0.1	1	0.0	18	0.2	83	0.3	118	0.4	126	0.6	0	--
Unknown	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--
Multiple race²	68	1.0	3	0.3	2	0.1	10	0.7	22	1.4	18	2.0	13	3.4	0	--
Male	45	1.3	1	0.2	2	0.2	7	1.0	14	1.9	13	3.0	8	4.7	0	--
Female	23	0.7	2	0.4	0	0.0	3	0.4	8	1.0	5	1.0	5	2.4	0	--
Unknown	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--
Unknown	28	--	2	--	1	--	2	--	12	--	7	--	3	--	1	--
Male	20	--	1	--	0	--	1	--	9	--	6	--	3	--	0	--
Female	7	--	1	--	1	--	1	--	3	--	1	--	0	--	0	--
Unknown	1	--	0	--	0	--	0	--	0	--	0	--	0	--	1	--

¹Persons of Hispanic/Latino origin may be of any or multiple race.

²Indicates two or more races reported for a person, and does not include persons of Hispanic/Latino origin.

Note: Denominators for computing 2017 case rates were obtained from the U.S. Census Annual Estimates of the Resident Population by Sex, Age, Race and Hispanic Origin: April 1, 2010 to July 1, 2017 (<https://www.census.gov/data/tables/2017/demo/popest/nation-detail.html>) accessed June 21, 2018.

Case counts for race categories (American Indian/Alaska Native, Asian, black/African American, Native Hawaiian/Other Pacific Islander, and white) are mutually exclusive and do not include persons of Hispanic/Latino origin or multiple race.

See Technical Notes.

See Surveillance Slides #6 and #8.

Table 21. Tuberculosis Cases Among U.S.-Born Persons, by Hispanic Ethnicity and Non-Hispanic Race, Sex, and Age Group: United States, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table21.htm>.

Race/ethnicity and sex	Age group							
	All ages	Under 5	5–14	15–24	25–44	45–64	≥65	Unknown
Total cases	2,705	206	128	257	620	850	644	0
Male	1,710	101	64	130	387	601	427	0
Female	995	105	64	127	233	249	217	0
Unknown	0	0	0	0	0	0	0	0
Hispanic/Latino¹	593	93	64	108	157	93	78	0
Male	358	47	26	57	110	71	47	0
Female	235	46	38	51	47	22	31	0
Unknown	0	0	0	0	0	0	0	0
American Indian/Alaska Native	91	6	5	12	17	31	20	0
Male	44	1	3	6	12	12	10	0
Female	47	5	2	6	5	19	10	0
Unknown	0	0	0	0	0	0	0	0
Asian	136	31	18	31	29	9	18	0
Male	64	14	11	14	10	6	9	0
Female	72	17	7	17	19	3	9	0
Unknown	0	0	0	0	0	0	0	0
Black/African American	1,007	51	23	72	262	394	205	0
Male	642	23	14	34	160	280	131	0
Female	365	28	9	38	102	114	74	0
Unknown	0	0	0	0	0	0	0	0
Native Hawaiian/Other Pacific Islander	45	10	12	7	9	3	4	0
Male	27	7	6	4	4	3	3	0
Female	18	3	6	3	5	0	1	0
Unknown	0	0	0	0	0	0	0	0
White	803	10	3	26	139	310	315	0
Male	559	7	2	15	88	222	225	0
Female	244	3	1	11	51	88	90	0
Unknown	0	0	0	0	0	0	0	0
Multiple race²	26	3	2	1	7	9	4	0
Male	14	1	2	0	3	6	2	0
Female	12	2	0	1	4	3	2	0
Unknown	0	0	0	0	0	0	0	0
Unknown	4	2	1	0	0	1	0	0
Male	2	1	0	0	0	1	0	0
Female	2	1	1	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0

¹Persons of Hispanic/Latino origin may be of any or multiple race.

²Indicates two or more races reported for a person and does not include persons of Hispanic/Latino origin.

Note: Case counts for race categories (American Indian/Alaska Native, Asian, black/African American, Native Hawaiian/Other Pacific Islander, and white) are mutually exclusive and do not include persons of Hispanic ethnicity or multiple race.

See Technical Notes.

See Surveillance Slide #11.

Table 22. Tuberculosis Cases Among Non-U.S.–Born Persons¹, by Hispanic Ethnicity and Non-Hispanic Race, Sex, and Age Group: United States, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table22.htm>.

Race/ethnicity and sex	Age group							
	All ages	Under 5	5–14	15–24	25–44	45–64	≥65	Unknown
Total cases	6,384	22	72	589	2,136	1,905	1,655	5
Male	3,866	13	38	360	1,203	1,200	1,052	0
Female	2,515	9	34	229	933	705	603	2
Unknown	3	0	0	0	0	0	0	3
Hispanic/Latino²	1,967	6	21	194	672	638	435	1
Male	1,284	3	11	143	440	431	256	0
Female	683	3	10	51	232	207	179	1
Unknown	0	0	0	0	0	0	0	0
American Indian/Alaska Native	2	0	0	0	2	0	0	0
Male	1	0	0	0	1	0	0	0
Female	1	0	0	0	1	0	0	0
Unknown	0	0	0	0	0	0	0	0
Asian	3,115	8	18	251	866	946	1,024	2
Male	1,860	4	9	143	443	585	676	0
Female	1,254	4	9	108	423	361	348	1
Unknown	1	0	0	0	0	0	0	1
Black/African American	900	7	27	114	464	204	83	1
Male	475	5	14	57	244	106	49	0
Female	424	2	13	57	220	98	34	0
Unknown	1	0	0	0	0	0	0	1
Native Hawaiian/Other Pacific Islander	65	0	6	7	28	19	5	0
Male	33	0	4	4	10	13	2	0
Female	32	0	2	3	18	6	3	0
Unknown	0	0	0	0	0	0	0	0
White	270	1	0	12	78	83	96	0
Male	165	1	0	5	46	53	60	0
Female	105	0	0	7	32	30	36	0
Unknown	0	0	0	0	0	0	0	0
Multiple race³	42	0	0	9	15	9	9	0
Male	31	0	0	7	11	7	6	0
Female	11	0	0	2	4	2	3	0
Unknown	0	0	0	0	0	0	0	0
Unknown	23	0	0	2	11	6	3	1
Male	17	0	0	1	8	5	3	0
Female	5	0	0	1	3	1	0	0
Unknown	1	0	0	0	0	0	0	1

¹Includes persons born outside the United States (including the U.S. territories), except persons born to a U.S. citizen parent.

²Persons of Hispanic ethnicity may be of any race or multiple race.

³Indicates two or more races reported for a person and does not include persons of Hispanic/Latino origin.

Note: Case counts for race categories (American Indian/Alaska Native, Asian, black/African American, Native Hawaiian/Other Pacific Islander, and white) are mutually exclusive and do not include persons of Hispanic ethnicity or multiple race.

See Technical Notes.

See Surveillance Slide #11.

Table 23. Tuberculosis Risk Factors¹, by Origin and Race/Ethnicity: United States, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table23.htm>.

	Total eligible cases ²	Contact ³		HIV Coinfection		Non-HIV Immunosuppression ⁴		Diabetes Mellitus		Post-Organ Transplantation		TNF- α Inhibitors		Other ⁵		None		Unknown	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	9,089	708	(7.8)	445	(4.9)	648	(7.1)	1,813	(19.9)	40	(0.4)	67	(0.7)	2,234	(24.6)	4,401	(48.4)	204	(2.2)
U.S.-born total	2,705	434	(16.0)	182	(6.7)	242	(8.9)	375	(13.9)	11	(0.4)	18	(0.7)	764	(28.2)	1,135	(42.0)	52	(1.9)
American Indian/Alaska Native	91	28	(30.8)	6	(6.6)	3	(3.3)	14	(15.4)	0	(0.0)	0	(0.0)	16	(17.6)	40	(44.0)	0	(0.0)
Asian	136	31	(22.8)	2	(1.5)	6	(4.4)	11	(8.1)	1	(0.7)	0	(0.0)	25	(18.4)	67	(49.3)	2	(1.5)
Black/African American	1,007	146	(14.5)	108	(10.7)	89	(8.8)	130	(12.9)	4	(0.4)	6	(0.6)	311	(30.9)	441	(43.8)	15	(1.5)
Hispanic/Latino⁶	593	113	(19.1)	35	(5.9)	27	(4.6)	98	(16.5)	2	(0.3)	1	(0.2)	145	(24.5)	249	(42.0)	12	(2.0)
Multiple races⁷	26	9	(34.6)	3	(11.5)	0	(0.0)	2	(7.7)	0	(0.0)	0	(0.0)	9	(34.6)	9	(34.6)	1	(3.8)
Native Hawaiian/Other Pacific Islander	45	19	(42.2)	0	(0.0)	2	(4.4)	4	(8.9)	0	(0.0)	0	(0.0)	8	(17.8)	16	(35.6)	0	(0.0)
White	803	86	(10.7)	28	(3.5)	115	(14.3)	116	(14.4)	3	(0.4)	11	(1.4)	249	(31.0)	312	(38.9)	22	(2.7)
Unknown	4	2	(50.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(25.0)	0	(0.0)	1	(25.0)	1	(25.0)	0	(0.0)
Non-U.S.-born total	6,384	274	(4.3)	263	(4.1)	406	(6.4)	1,438	(22.5)	29	(0.5)	49	(0.8)	1,470	(23.0)	3,266	(51.2)	152	(2.4)
American Indian/Alaska Native	2	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	2	(100.0)	0	(0.0)
Asian	3,115	119	(3.8)	50	(1.6)	223	(7.2)	779	(25.0)	21	(0.7)	33	(1.1)	803	(25.8)	1,477	(47.4)	76	(2.4)
Black/African American	900	46	(5.1)	118	(13.1)	39	(4.3)	88	(9.8)	2	(0.2)	2	(0.2)	181	(20.1)	578	(64.2)	23	(2.6)
Hispanic/Latino⁶	1,967	89	(4.5)	86	(4.4)	109	(5.5)	493	(25.1)	3	(0.2)	10	(0.5)	405	(20.6)	1,006	(51.1)	35	(1.8)
Multiple races⁷	42	2	(4.8)	0	(0.0)	4	(9.5)	7	(16.7)	0	(0.0)	0	(0.0)	12	(28.6)	18	(42.9)	3	(7.1)
Native Hawaiian/Other Pacific Islander	65	12	(18.5)	0	(0.0)	2	(3.1)	25	(38.5)	1	(1.5)	0	(0.0)	12	(18.5)	23	(35.4)	1	(1.5)
White	270	5	(1.9)	9	(3.3)	28	(10.4)	42	(15.6)	2	(0.7)	4	(1.5)	55	(20.4)	149	(55.2)	11	(4.1)
Unknown	23	1	(4.3)	0	(0.0)	1	(4.3)	4	(17.4)	0	(0.0)	0	(0.0)	2	(8.7)	13	(56.5)	3	(13.0)

¹ Includes the number of risk factors reported (which may be more than one per case) and the number of cases with no information on additional risk factors. The sum of risk factors is greater than the total number of cases because more than one risk factor may be selected per case.

² Excludes TB risk factor information for 16 cases with unknown origin.

³ Includes risk factor responses of MDR patient contact, missed contact, and infectious TB patient contact.

⁴ Includes risk factor responses of end-stage renal disease and non-HIV immunosuppression.

⁵ Includes risk factor responses of incomplete LTBI therapy and Other.

⁶ Persons of Hispanic/Latino origin may be of any or multiple race.

⁷ Indicated two or more races reported for a person, and does not include persons of Hispanic/Latino origin.

Note: Case counts for race categories (American Indian/Alaska Native, Asian, black/African American, Native Hawaiian/Other Pacific Islander, and white) are mutually exclusive and do not include persons of Hispanic ethnicity or multiple race.

Table 24. Characteristics of Tuberculosis Cases in GENType Clusters¹, by Alert Levels Based on Log-Likelihood Ratios (LLR)²: United States, 2015–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table24.htm>.

Case Characteristics	Unique		Clustered		Alert Levels for Clustered Cases ³					
	No.	(%)	No.	(%)	Non-alerted (LLR <5)		Medium (LLR 5 – <10)		High (LLR ≥10)	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Total	16,770	79.7	4,259	20.3	2,473	58.1	1,036	24.3	750	17.6
Origin of birth										
U.S.-born	4,169	65.7	2,179	34.3	869	39.9	664	30.5	646	29.6
Non-U.S.-born	12,585	85.9	2,072	14.1	1,598	77.1	371	17.9	103	5.0
Unknown or missing	16	66.7	8	33.3	6	75.0	1	12.5	1	12.5
Race and ethnicity										
Hispanic or Latino	4,524	77.4	1,323	22.6	823	62.2	355	26.8	145	11.0
American Indian/Alaska Native	133	46.5	153	53.5	17	11.1	51	33.3	85	55.6
Asian	6,608	86.8	1,006	13.2	868	86.3	108	10.7	30	3.0
Black or African American	3,075	72.2	1,185	27.8	500	42.2	325	27.4	360	30.4
Native Hawaiian/Other Pacific Islander	123	63.4	71	36.6	43	60.6	10	14.1	18	25.4
White	2,144	81.6	483	18.4	207	42.9	172	35.6	104	21.5
Multiple race	116	80.6	28	19.4	9	32.1	11	39.3	8	28.6
Unknown or missing	47	82.5	10	17.5	6	60.0	4	40.0	0	0.0
Age group (years)										
0–4	85	43.1	112	56.9	49	43.8	42	37.5	21	18.8
5–14	116	61.1	74	38.9	42	56.8	16	21.6	16	21.6
15–24	1,554	76.1	488	23.9	282	57.8	129	26.4	77	15.8
25–44	5,056	78.8	1,361	21.2	746	54.8	370	27.2	245	18.0
45–64	5,060	76.8	1,525	23.2	859	56.3	348	22.8	318	20.9
≥65	4,894	87.5	699	12.5	495	70.8	131	18.7	73	10.4
Disease site										
Pulmonary only	11,889	77.8	3,399	22.2	1,923	56.6	843	24.8	633	18.6
Extrapulmonary	2,911	87.5	415	12.5	279	67.2	92	22.2	44	10.6
Both	1,961	81.6	442	18.4	269	60.9	101	22.9	72	16.3
Unknown	9	75.0	3	25.0	2	66.7	0	0.0	1	33.3
Sputum smear										
Positive	7,555	76.6	2,312	23.4	1,285	55.6	621	26.9	406	17.6
Negative	6,815	82.2	1,478	17.8	914	61.8	292	19.8	272	18.4
Not done	2,378	83.6	467	16.4	273	58.5	122	26.1	72	15.4
Unknown or missing	22	91.7	2	8.3	1	50.0	1	50.0	0	0.0
Cavitary disease⁴										
Yes	154	76.2	48	23.8	25	52.1	14	29.2	9	18.8
No	1,386	81.0	326	19.0	200	61.3	73	22.4	53	16.3
Unknown or missing										
Homeless within past year										
Yes	628	56.8	478	43.2	195	40.8	119	24.9	164	34.3
No	16,051	81.0	3,757	19.0	2,264	60.3	909	24.2	584	15.5
Unknown or missing	91	79.1	24	20.9	14	58.3	8	33.3	2	8.3
Excess alcohol use within the past year										
Yes	1,385	62.7	823	37.3	329	40.0	254	30.9	240	29.2
No	15,157	81.8	3,370	18.2	2,102	62.4	762	22.6	506	15.0
Unknown or missing	228	77.6	66	22.4	42	63.6	20	30.3	4	6.1
Injecting illicit drug use within past year										
Yes	170	59.9	114	40.1	42	36.8	42	36.8	30	26.3
No	16,410	80.1	4,067	19.9	2,380	58.5	973	23.9	714	17.6
Unknown or missing	190	70.9	78	29.1	51	65.4	21	26.9	6	7.7
Non-injecting illicit drug use within past year										
Yes	877	57.5	649	42.5	260	40.1	195	30.0	194	29.9
No	15,704	81.6	3,537	18.4	2,167	61.3	821	23.2	549	15.5
Unknown or missing	189	72.1	73	27.9	46	63.0	20	27.4	7	9.6
Resident of a correction facility at the time of diagnosis										
Yes	463	70.2	197	29.8	94	47.7	50	25.4	53	26.9
No	16,192	80.1	4,018	19.9	2,353	58.6	970	24.1	695	17.3
Unknown or missing	115	72.3	44	27.7	26	59.1	16	36.4	2	4.5
HIV status										
Positive	809	76.0	255	24.0	135	52.9	56	22.0	64	25.1
Negative	14,089	79.4	3,660	20.6	2,110	57.7	908	24.8	642	17.5
Refused	397	86.3	63	13.7	46	73.0	12	19.0	5	7.9
Not offered	991	82.2	215	17.8	136	63.3	46	21.4	33	15.3
Unknown, missing, or indeterminate	484	88.0	66	12.0	46	69.7	14	21.2	6	9.1
Multidrug-resistant TB										
Yes	245	81.1	57	18.9	36	63.2	7	12.3	14	24.6
No	15,893	79.8	4,027	20.2	2,337	58.0	982	24.4	708	17.6
Unknown or missing	632	78.3	175	21.7	100	57.1	47	26.9	28	16.0

¹GENType clusters have two or more cases with matching spoligotype and 24-locus mycobacterial interspersed repetitive unit-variable number tandem repeat type (MIRU-VNTR) within a county during the specified 3-year time period.

Continued

²Alert levels are based on a log-likelihood ratio (LLR), which calculates the geographical concentration of a genotype in a county compared to the rest of the country during a 3-year period.

³There were 4,259 cases in 1,409 alerted clusters: 750 cases were in 76 (5.4%) high alert clusters; 1,036 cases were in 335 (23.8%) medium alert clusters, and 2,473 cases were in 998 (70.8%) non-alert clusters.

⁴Cavitary disease only assessed for persons with pulmonary TB and an abnormal x-ray.

Note: Case counts for race categories (American Indian/Alaska Native, Asian, black/African American, Native Hawaiian/Other Pacific Islander, and white) are mutually exclusive and do not include persons of Hispanic ethnicity or multiple race. Multiple race does not include persons of Hispanic ethnicity. See Surveillance Slide [#29](#).

Table 25. Tuberculosis Cases and Clusters, by Cluster Size¹: United States, 2015–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table25.htm>.

Cluster Size	Clusters		Cases ²	
	No.	(%) ³	No.	(%) ⁴
Total	1,409	(100.0)	4,259	(100.0)
2 case cluster	928	(65.9)	1,856	(43.6)
3 case cluster	229	(16.3)	687	(16.1)
4 case cluster	110	(7.8)	440	(10.3)
5 case cluster	46	(3.3)	230	(5.4)
6 case cluster	22	(1.6)	132	(3.1)
7 case cluster	17	(1.2)	119	(2.8)
8 case cluster	11	(0.8)	88	(2.1)
9 case cluster	10	(0.7)	90	(2.1)
≥10 case cluster	36	(2.6)	617	(14.5)

¹Clusters have two or more cases with matching spoligotype and 24-locus mycobacterial interspersed repetitive unit-variable number tandem repeat type (GENType) within a county during the specified 3-year time period.

²Cases with matching spoligotype and 24-locus mycobacterial interspersed repetitive unit-variable number tandem repeat type (GENType) are members of a cluster within a county during the specified 3-year time period.

³Denominator is total number of clusters.

⁴Denominator is total number of cases.

See Surveillance Slide [#28](#).

Table 26. Twenty-Five Most Frequently Reported GENTypes¹ Among Genotyped Tuberculosis Cases: United States, 2015–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table26.htm>.

GENType	PCRTYPE ²	Spoligotype	24-locus MIRU-VNTR		TB Cases with GENType ³		Reporting Areas ⁴ with GENType
					No.	(%)	No.
G00012	PCR00002	00000000003771	223325173533	445644423328	181	(0.9)	28
G00010	PCR00002	00000000003771	223325173533	444534423428	163	(0.8)	20
G00016	PCR00041	677777477413771	254326223432	14a843263217	144	(0.7)	23
G05056	PCR00041	677777477413771	254326223432	14a943263217	114	(0.5)	23
G00017	PCR00803	00000000003771	222325173533	445644423328	76	(0.4)	18
G01363	PCR00002	00000000003771	223325173533	445544423328	62	(0.3)	19
G00011	PCR00015	77777677760601	224325153323	444234423337	61	(0.3)	23
G00015	PCR11884	00000000003771	223326171531	445544423228	61	(0.3)	9
G00013	PCR00016	70003677760731	222325153223	434534412334	57	(0.3)	16
G00019	PCR00309	00000000003771	222325173543	445644423328	57	(0.3)	13
G10508	PCR00015	77777677760601	224325153323	43-234422333	57	(0.3)	8
G00020	PCR01328	77637777760751	333325153222	351544223229	55	(0.3)	11
G10345	PCR00160	77777677760601	224325143323	244234423337	53	(0.3)	10
G05020	PCR00041	677777477413771	254326223432	14a843263215	49	(0.2)	9
G00014	PCR00051	77603777760771	223125163324	2424342232525	48	(0.2)	11
G12500	PCR00617	77777607760771	224226153321	543424115228	47	(0.2)	8
G11610	PCR08263	77777377560771	223425153322	242524223324	45	(0.2)	5
G08735	PCR00143	77700037760771	225125113322	143134423337	44	(0.2)	17
G05625	PCR00231	70003677760771	222325133223	234634413334	42	(0.2)	10
G00734	PCR00091	00000000003771	223325153533	445644423328	41	(0.2)	17
G00846	PCR00093	00000000003771	223325163533	445644423328	41	(0.2)	19
G06143	PCR00044	70337740001771	227425113434	423244223245	41	(0.2)	21
G00018	PCR00036	00000000003771	223425173563	344644623337	35	(0.2)	12
G03270	PCR01500	61777677760601	225325153324	444234423315	35	(0.2)	1
G13443	PCR00069	77777774020771	225315153323	133334423337	34	(0.2)	6

¹GENType is defined as a unique combination of spoligotype and 24-locus mycobacterial interspersed repetitive unit-variable number tandem repeat (MIRU-VNTR) type.

²PCRTYPE is defined as a unique combination of spoligotype and 12-locus MIRU-VNTR; every GENType has a corresponding PCRTYPE.

³Among 21,043 cases with GENTypes during 2015–2017.

⁴This table reflects common GENTypes for the 50 states and the District of Columbia; for common GENTypes in the U.S.-affiliated areas, please see Table 27.

Table 27. Five Most Frequently Reported GENTypes¹ Among Genotyped Tuberculosis Cases: United States-Affiliated Areas², 2015–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table27.htm>.

GENType	PCRTYPE ³	Spoligotype	24-locus MIRU-VNTR		TB Cases with GENType ⁴		Reporting Areas with GENType
					No.	(%)	No.
G00017	PCR00803	00000000003771	222325173533	445644423328	124	(23.0)	5
G04942	PCR00041	677777477413771	254326223432	149843263217	10	(1.9)	2
G01284	PCR00002	00000000003771	223325173533	44474442334A	8	(1.5)	2
G02340	PCR05804	361777607760771	123226153226	343224123226	8	(1.5)	2
G03200	PCR07291	600777477413771	254326223432	146743263217	8	(1.5)	2

¹GENType is defined as a unique combination of spoligotype and 24-locus mycobacterial interspersed repetitive unit-variable number tandem repeat (MIRU-VNTR) type.

²The U.S.-affiliated areas include: American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Republic of the Marshall Islands, Republic of Palau, Puerto Rico, and U.S. Virgin Islands.

³PCRTYPE is defined as a unique combination of spoligotype and 12-locus MIRU-VNTR; every GENType has a corresponding PCRTYPE.

⁴Among culture-positive genotyped TB cases during 2015–2017 (n=547).

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Morbidity Tables, Reporting Areas, 2017

Table 28. Tuberculosis Cases and Case Rates per 100,000 Population: Reporting Areas, 2017 and 2016

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table28.htm>.

Reporting Area	Cases		Case Rates		Rank According to Rate		Population Estimates July 1, 2017
	2017	2016	2017	2016	2017	2016	
UNITED STATES	9,105	9,253	2.8	2.9	--	--	325,719,178
Alabama	120	112	2.5	2.3	19	20	4,874,747
Alaska	53	57	7.2	7.7	2	2	739,795
Arizona	188	188	2.7	2.7	15	16	7,016,270
Arkansas	85	91	2.8	3.0	12	10	3,004,279
California	2,057	2,059	5.2	5.2	4	4	39,536,653
Colorado	84	64	1.5	1.2	34	43	5,607,154
Connecticut	63	52	1.8	1.4	27	37	3,588,184
Delaware	15	16	1.6	1.7	31	31	961,939
District of Columbia	36	25	5.2	3.7	5	7	693,972
Florida	549	639	2.6	3.1	18	9	20,984,400
Georgia	294	303	2.8	2.9	13	12	10,429,379
Hawaii	116	119	8.1	8.3	1	1	1,427,538
Idaho	10	18	0.6	1.1	49	46	1,716,943
Illinois	335	341	2.6	2.7	17	18	12,802,023
Indiana	100	109	1.5	1.6	32	32	6,666,818
Iowa	47	48	1.5	1.5	35	35	3,145,711
Kansas	29	39	1.0	1.3	45	40	2,913,123
Kentucky	65	91	1.5	2.1	36	23	4,454,189
Louisiana	141	127	3.0	2.7	11	17	4,684,333
Maine	14	23	1.0	1.7	44	29	1,335,907
Maryland	207	221	3.4	3.7	7	6	6,052,177
Massachusetts	210	190	3.1	2.8	10	15	6,859,819
Michigan	133	133	1.3	1.3	40	41	9,962,311
Minnesota	178	168	3.2	3.0	8	11	5,576,606
Mississippi	53	61	1.8	2.0	25	24	2,984,100
Missouri	87	99	1.4	1.6	37	33	6,113,532
Montana	3	4	0.3	0.4	52	51	1,050,493
Nebraska	21	28	1.1	1.5	43	36	1,920,076
Nevada	80	55	2.7	1.9	16	26	2,998,039
New Hampshire	19	15	1.4	1.1	38	45	1,342,795
New Jersey	284	294	3.2	3.3	9	8	9,005,644
New Mexico	37	39	1.8	1.9	26	27	2,088,070
New York State ¹	193	202	1.7	1.8	28	28	11,226,701
New York City	613	556	7.1	6.5	3	3	8,622,698
North Carolina	213	219	2.1	2.2	21	21	10,273,419
North Dakota	14	22	1.9	2.9	24	13	755,393
Ohio	151	140	1.3	1.2	41	42	11,658,609
Oklahoma	54	78	1.4	2.0	39	25	3,930,864
Oregon	69	70	1.7	1.7	29	30	4,142,776
Pennsylvania	192	173	1.5	1.4	33	39	12,805,537
Rhode Island	13	12	1.2	1.1	42	44	1,059,639
South Carolina	101	102	2.0	2.1	22	22	5,024,369
South Dakota	14	12	1.6	1.4	30	38	869,666
Tennessee	128	103	1.9	1.5	23	34	6,715,984
Texas	1,127	1,248	4.0	4.5	6	5	28,304,596
Utah	29	20	0.9	0.7	46	50	3,101,833
Vermont	3	6	0.5	1.0	50	47	623,657
Virginia	204	203	2.4	2.4	20	19	8,470,020
Washington	207	204	2.8	2.8	14	14	7,405,743
West Virginia	16	14	0.9	0.8	47	48	1,815,857
Wisconsin	49	40	0.8	0.7	48	49	5,795,483
Wyoming	2	1	0.3	0.2	51	52	579,315
American Samoa ²	2	1	3.9	1.9	--	--	51,504
Fed. States of Micronesia ²	143	129	134.9	122.9	--	--	106,000
Guam ²	84	73	50.2	43.7	--	--	167,358
Marshall Islands ²	187	179	352.8	337.7	--	--	53,000
N. Mariana Islands ²	36	27	68.9	51.4	--	--	52,263
Puerto Rico ²	40	69	1.2	2.0	--	--	3,337,177
Republic of Palau ²	20	23	90.9	104.5	--	--	22,000
U.S. Virgin Islands ²	0	0	0.0	0.0	--	--	107,268

¹Excludes New York City.

²Not ranked with the U.S. regions or included with the U.S. totals.

Note: Denominators for computing 2016 and 2017 rates for states, the District of Columbia, and Puerto Rico were obtained from U.S. Census Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico (April 1, 2010 to July 1, 2017) (<https://www2.census.gov/programs-surveys/popest/tables/2010-2017/state/totals/nst-est2017-01.xlsx>). Totals for U.S. territories were obtained from the International Data Base (<https://www.census.gov/data-tools/demo/idb/informationGateway.php>) and totals for freely associated states were obtained from the United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision, DVD Edition. (<https://esa.un.org/unpd/wpp/Download/Standard/Population/>) Total Population - Both Sexes; No change variant (constant-fertility and constant-mortality), 2015 - 2100; accessed July 2, 2018.

See Technical Notes.

See Surveillance Slide #3.

Table 29. Tuberculosis Cases and Case Rates per 100,000 Population, Ranked and Grouped by Number of Cases: United States and the District of Columbia, 2017 and 2016

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table29.htm>.

Reporting Area	2017		2016		2016–2017 % change		Overall rank by 2017 rate
	No.	Rate	No.	Rate	No.	Rate	
Total	9,105	2.8	9,253	2.9	-1.6	-2.3	--
≥500 cases in 2017							
California	2,057	5.2	2,059	5.2	-0.1	-0.7	3
Texas	1,127	4.0	1,248	4.5	-9.7	-11.0	6
New York ¹	806	4.1	758	3.8	6.3	6.3	5
Florida	549	2.6	639	3.1	-14.1	-15.4	18
100–499 cases in 2017							
Illinois	335	2.6	341	2.7	-1.8	-1.5	17
Georgia	294	2.8	303	2.9	-3.0	-4.0	13
New Jersey	284	3.2	294	3.3	-3.4	-3.7	9
North Carolina	213	2.1	219	2.2	-2.7	-3.8	21
Massachusetts	210	3.1	190	2.8	10.5	9.9	10
Maryland	207	3.4	221	3.7	-6.3	-6.8	7
Washington	207	2.8	204	2.8	1.5	-0.2	14
Virginia	204	2.4	203	2.4	0.5	-0.2	20
Pennsylvania	192	1.5	173	1.4	11.0	10.8	32
Arizona	188	2.7	188	2.7	0.0	-1.5	15
Minnesota	178	3.2	168	3.0	6.0	5.0	8
Ohio	151	1.3	140	1.2	7.9	7.5	40
Louisiana	141	3.0	127	2.7	11.0	11.1	11
Michigan	133	1.3	133	1.3	0.0	-0.3	39
Tennessee	128	1.9	103	1.5	24.3	23.0	23
Alabama	120	2.5	112	2.3	7.1	6.8	19
Hawaii	116	8.1	119	8.3	-2.5	-2.4	1
South Carolina	101	2.0	102	2.1	-1.0	-2.3	22
Indiana	100	1.5	109	1.6	-8.3	-8.7	31
<100 cases in 2017							
Missouri	87	1.4	99	1.6	-12.1	-12.4	36
Arkansas	85	2.8	91	3.0	-6.6	-7.1	12
Colorado	84	1.5	64	1.2	31.3	29.4	33
Nevada	80	2.7	55	1.9	45.5	42.6	16
Oregon	69	1.7	70	1.7	-1.4	-2.8	28
Kentucky	65	1.5	91	2.1	-28.6	-28.9	35
Connecticut	63	1.8	52	1.4	21.2	21.1	27
Oklahoma	54	1.4	78	2.0	-30.8	-30.9	38
Alaska	53	7.2	57	7.7	-7.0	-6.8	2
Mississippi	53	1.8	61	2.0	-13.1	-13.1	25
Wisconsin	49	0.8	40	0.7	22.5	22.0	47
Iowa	47	1.5	48	1.5	-2.1	-2.5	34
New Mexico	37	1.8	39	1.9	-5.1	-5.2	26
District of Columbia	36	5.2	25	3.7	44.0	42.0	4
Kansas	29	1.0	39	1.3	-25.6	-25.8	44
Utah	29	0.9	20	0.7	45.0	42.3	45
Nebraska	21	1.1	28	1.5	-25.0	-25.5	42
New Hampshire	19	1.4	15	1.1	26.7	25.9	37
West Virginia	16	0.9	14	0.8	14.3	15.1	46
Delaware	15	1.6	16	1.7	-6.3	-7.2	30
Maine	14	1.0	23	1.7	-39.1	-39.4	43
North Dakota	14	1.9	22	2.9	-36.4	-36.4	24
South Dakota	14	1.6	12	1.4	16.7	15.6	29
Rhode Island	13	1.2	12	1.1	8.3	8.1	41
Idaho	10	0.6	18	1.1	-44.4	-45.6	48
Montana	3	0.3	4	0.4	-25.0	-25.8	51
Vermont	3	0.5	6	1.0	-50.0	-50.0	49
Wyoming	2	0.3	1	0.2	100.0	101.9	50

¹Includes New York City

Note: Denominators for computing 2016 and 2017 rates for states and the District of Columbia were obtained from U.S. Census Bureau Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2017 (<https://www2.census.gov/programs-surveys/popest/tables/2010-2017/state/totals/nst-est2017-01.xlsx>); accessed June 19, 2018.

Table 30. Tuberculosis Cases and Percentages, by Age Group: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table30.htm>.

Reporting Area	Total cases	Under 5		5–14		15–24		25–44		45–64		≥65		Unknown/missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
UNITED STATES	9,105	228	(2.5)	201	(2.2)	847	(9.3)	2,758	(30.3)	2,758	(30.3)	2,305	(25.3)	8	(0.1)
Alabama	120	10	(8.3)	2	(1.7)	11	(9.2)	33	(27.5)	41	(34.2)	23	(19.2)	0	(0)
Alaska	53	3	(5.7)	4	(7.5)	9	(17.0)	8	(15.1)	16	(30.2)	13	(24.5)	0	(0)
Arizona	188	8	(4.3)	7	(3.7)	28	(14.9)	57	(30.3)	51	(27.1)	37	(19.7)	0	(0)
Arkansas	85	6	(7.1)	11	(12.9)	4	(4.7)	19	(22.4)	31	(36.5)	14	(16.5)	0	(0)
California	2,057	39	(1.9)	38	(1.8)	162	(7.9)	492	(23.9)	652	(31.7)	673	(32.7)	1	(0)
Colorado	84	3	(3.6)	1	(1.2)	5	(6.0)	34	(40.5)	15	(17.9)	26	(31.0)	0	(0)
Connecticut	63	3	(4.8)	0	(0)	6	(9.5)	21	(33.3)	13	(20.6)	20	(31.7)	0	(0)
Delaware	15	0	(0)	0	(0)	1	(6.7)	6	(40.0)	2	(13.3)	6	(40.0)	0	(0)
District of Columbia	36	1	(2.8)	0	(0)	4	(11.1)	11	(30.6)	12	(33.3)	8	(22.2)	0	(0)
Florida	549	7	(1.3)	5	(0.9)	51	(9.3)	186	(33.9)	186	(33.9)	114	(20.8)	0	(0)
Georgia	294	13	(4.4)	9	(3.1)	26	(8.8)	104	(35.4)	92	(31.3)	50	(17.0)	0	(0)
Hawaii	116	2	(1.7)	2	(1.7)	14	(12.1)	31	(26.7)	31	(26.7)	36	(31.0)	0	(0)
Idaho	10	0	(0)	2	(20.0)	3	(30.0)	3	(30.0)	1	(10.0)	1	(10.0)	0	(0)
Illinois	335	6	(1.8)	7	(2.1)	36	(10.7)	96	(28.7)	94	(28.1)	96	(28.7)	0	(0)
Indiana	100	5	(5.0)	1	(1.0)	12	(12.0)	36	(36.0)	21	(21.0)	25	(25.0)	0	(0)
Iowa	47	0	(0)	2	(4.3)	4	(8.5)	20	(42.6)	11	(23.4)	10	(21.3)	0	(0)
Kansas	29	0	(0)	0	(0.0)	3	(10.3)	10	(34.5)	7	(24.1)	9	(31.0)	0	(0)
Kentucky	65	1	(1.5)	4	(6.2)	6	(9.2)	21	(32.3)	14	(21.5)	19	(29.2)	0	(0)
Louisiana	141	7	(5.0)	5	(3.5)	9	(6.4)	37	(26.2)	52	(36.9)	31	(22.0)	0	(0)
Maine	14	0	(0)	1	(7.1)	1	(7.1)	8	(57.1)	1	(7.1)	3	(21.4)	0	(0)
Maryland	207	6	(2.9)	2	(1.0)	25	(12.1)	81	(39.1)	55	(26.6)	38	(18.4)	0	(0)
Massachusetts	210	4	(1.9)	7	(3.3)	19	(9.0)	77	(36.7)	57	(27.1)	46	(21.9)	0	(0)
Michigan	133	3	(2.3)	5	(3.8)	13	(9.8)	30	(22.6)	37	(27.8)	45	(33.8)	0	(0)
Minnesota	178	12	(6.7)	11	(6.2)	25	(14.0)	49	(27.5)	41	(23.0)	40	(22.5)	0	(0)
Mississippi	53	1	(1.9)	1	(1.9)	4	(7.5)	11	(20.8)	24	(45.3)	12	(22.6)	0	(0)
Missouri	87	1	(1.1)	0	(0)	8	(9.2)	24	(27.6)	29	(33.3)	19	(21.8)	6	(6.9)
Montana	3	0	(0)	0	(0)	0	(0)	0	(0)	1	(33.3)	2	(66.7)	0	(0)
Nebraska	21	0	(0)	1	(4.8)	2	(9.5)	11	(52.4)	5	(23.8)	2	(9.5)	0	(0)
Nevada	80	0	(0)	1	(1.3)	6	(7.5)	28	(35.0)	23	(28.8)	22	(27.5)	0	(0)
New Hampshire	19	0	(0)	0	(0)	2	(10.5)	9	(47.4)	2	(10.5)	6	(31.6)	0	(0)
New Jersey	284	10	(3.5)	8	(2.8)	26	(9.2)	92	(32.4)	89	(31.3)	59	(20.8)	0	(0)
New Mexico	37	0	(0)	0	(0.0)	4	(10.8)	9	(24.3)	10	(27.0)	14	(37.8)	0	(0)
New York State ¹	193	4	(2.1)	4	(2.1)	18	(9.3)	58	(30.1)	56	(29.0)	53	(27.5)	0	(0)
New York City	613	10	(1.6)	5	(0.8)	58	(9.5)	200	(32.6)	191	(31.2)	149	(24.3)	0	(0)
North Carolina	213	7	(3.3)	5	(2.3)	20	(9.4)	69	(32.4)	67	(31.5)	45	(21.1)	0	(0)
North Dakota	14	0	(0)	0	(0)	3	(21.4)	5	(35.7)	5	(35.7)	1	(7.1)	0	(0)
Ohio	151	0	(0)	1	(0.7)	16	(10.6)	62	(41.1)	36	(23.8)	36	(23.8)	0	(0)
Oklahoma	54	2	(3.7)	3	(5.6)	8	(14.8)	15	(27.8)	10	(18.5)	16	(29.6)	0	(0)
Oregon	69	0	(0)	0	(0)	4	(5.8)	18	(26.1)	29	(42.0)	18	(26.1)	0	(0)
Pennsylvania	192	0	(0)	2	(1.0)	15	(7.8)	62	(32.3)	54	(28.1)	59	(30.7)	0	(0)
Rhode Island	13	0	(0)	1	(7.7)	1	(7.7)	3	(23.1)	5	(38.5)	3	(23.1)	0	(0)
South Carolina	101	4	(4.0)	3	(3.0)	5	(5.0)	21	(20.8)	37	(36.6)	31	(30.7)	0	(0)
South Dakota	14	0	(0)	0	(0)	1	(7.1)	2	(14.3)	5	(35.7)	6	(42.9)	0	(0)
Tennessee	128	6	(4.7)	2	(1.6)	14	(10.9)	38	(29.7)	38	(29.7)	30	(23.4)	0	(0)
Texas	1,127	34	(3.0)	23	(2.0)	109	(9.7)	371	(32.9)	365	(32.4)	225	(20.0)	0	(0)
Utah	29	3	(10.3)	4	(13.8)	2	(6.9)	11	(37.9)	8	(27.6)	1	(3.4)	0	(0)
Vermont	3	0	(0)	0	(0)	0	(0)	2	(66.7)	1	(33.3)	0	(0)	0	(0)
Virginia	204	4	(2.0)	5	(2.5)	18	(8.8)	76	(37.3)	56	(27.5)	45	(22.1)	0	(0)
Washington	207	2	(1.0)	5	(2.4)	19	(9.2)	75	(36.2)	56	(27.1)	49	(23.7)	1	(0.5)
West Virginia	16	0	(0)	0	(0)	1	(6.3)	3	(18.8)	8	(50.0)	4	(25.0)	0	(0)
Wisconsin	49	1	(2.0)	1	(2.0)	5	(10.2)	12	(24.5)	15	(30.6)	15	(30.6)	0	(0)
Wyoming	2	0	(0)	0	(0)	1	(50.0)	1	(50.0)	0	(0)	0	(0)	0	(0)
American Samoa ²	2	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)	0	(0)	0	(0)
Fed. States of Micronesia ²	143	25	(17.5)	27	(18.9)	28	(19.6)	35	(24.5)	21	(14.7)	7	(4.9)	0	(0)
Guam ²	84	3	(3.6)	6	(7.1)	8	(9.5)	21	(25.0)	33	(39.3)	13	(15.5)	0	(0)
Marshall Islands ²	187	23	(12.3)	17	(9.1)	29	(15.5)	56	(29.9)	52	(27.8)	10	(5.3)	0	(0)
N. Mariana Islands ²	36	3	(8.3)	1	(2.8)	1	(2.8)	10	(27.8)	18	(50.0)	3	(8.3)	0	(0)
Puerto Rico ²	40	1	(2.5)	0	(0)	0	(0)	3	(7.5)	18	(45.0)	18	(45.0)	0	(0)
Republic of Palau ²	20	0	(0)	2	(10.0)	4	(20.0)	4	(20.0)	10	(50.0)	0	(0)	0	(0)
U.S. Virgin Islands ²	0	0	...	0	...	0	...	0	...	0	...	0	...	0	...

¹Not including New York City.

²Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 31. Tuberculosis Cases and Percentages by Hispanic Ethnicity and Non-Hispanic Race: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table31.htm>.

Reporting Area	Total cases	Hispanic ¹		American Indian/Alaska Native		Asian		Black/African American		Native Hawaiian/Other Pacific Islander		White		Multiple race ²		Unknown/missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
UNITED STATES	9,105	2,568	(28.2)	94	(1.0)	3,254	(35.7)	1,910	(21.0)	110	(1.2)	1,073	(11.8)	68	(0.7)	28	(0.3)
Alabama	120	19	(15.8)	0	(0)	7	(5.8)	57	(47.5)	0	(0)	34	(28.3)	3	(2.5)	0	(0)
Alaska	53	2	(3.8)	32	(60.4)	15	(28.3)	1	(1.9)	0	(0)	3	(5.7)	0	(0)	0	(0)
Arizona	188	103	(54.8)	16	(8.5)	34	(18.1)	19	(10.1)	1	(0.5)	14	(7.4)	1	(0.5)	0	(0)
Arkansas	85	9	(10.6)	0	(0)	11	(12.9)	17	(20.0)	25	(29.4)	23	(27.1)	0	(0)	0	(0)
California	2,057	725	(35.2)	2	(0.1)	1,100	(53.5)	103	(5.0)	13	(0.6)	108	(5.3)	3	(0.1)	3	(0.1)
Colorado	84	24	(28.6)	1	(1.2)	23	(27.4)	20	(23.8)	2	(2.4)	12	(14.3)	2	(2.4)	0	(0)
Connecticut	63	20	(31.7)	0	(0)	16	(25.4)	12	(19.0)	0	(0)	15	(23.8)	0	(0)	0	(0)
Delaware	15	2	(13.3)	0	(0)	2	(13.3)	7	(46.7)	0	(0)	4	(26.7)	0	(0)	0	(0)
District of Columbia	36	7	(19.4)	0	(0)	2	(5.6)	26	(72.2)	0	(0)	1	(2.8)	0	(0)	0	(0)
Florida	549	150	(27.3)	1	(0.2)	86	(15.7)	201	(36.6)	0	(0)	108	(19.7)	3	(0.5)	0	(0)
Georgia	294	41	(13.9)	0	(0)	72	(24.5)	154	(52.4)	0	(0)	27	(9.2)	0	(0)	0	(0)
Hawaii	116	1	(0.9)	0	(0)	83	(71.6)	0	(0)	28	(24.1)	3	(2.6)	1	(0.9)	0	(0)
Idaho	10	5	(50.0)	0	(0)	1	(10.0)	4	(40.0)	0	(0)	0	(0)	0	(0)	0	(0)
Illinois	335	84	(25.1)	0	(0)	144	(43.0)	71	(21.2)	0	(0)	36	(10.7)	0	(0)	0	(0)
Indiana	100	22	(22.0)	0	(0)	43	(43.0)	11	(11.0)	1	(1.0)	23	(23.0)	0	(0)	0	(0)
Iowa	47	5	(10.6)	0	(0)	22	(46.8)	11	(23.4)	0	(0)	9	(19.1)	0	(0)	0	(0)
Kansas	29	6	(20.7)	0	(0)	13	(44.8)	5	(17.2)	0	(0)	5	(17.2)	0	(0)	0	(0)
Kentucky	65	8	(12.3)	0	(0)	14	(21.5)	13	(20.0)	1	(1.5)	28	(43.1)	1	(1.5)	0	(0)
Louisiana	141	22	(15.6)	0	(0)	27	(19.1)	46	(32.6)	0	(0)	40	(28.4)	6	(4.3)	0	(0)
Maine	14	2	(14.3)	0	(0)	1	(7.1)	7	(50.0)	1	(7.1)	3	(21.4)	0	(0)	0	(0)
Maryland	207	49	(23.7)	0	(0)	60	(29.0)	77	(37.2)	0	(0)	13	(6.3)	7	(3.4)	1	(0.5)
Massachusetts	210	30	(14.3)	1	(0.5)	94	(44.8)	58	(27.6)	0	(0)	19	(9.0)	3	(1.4)	5	(2.4)
Michigan	133	14	(10.5)	2	(1.5)	46	(34.6)	31	(23.3)	0	(0)	40	(30.1)	0	(0)	0	(0)
Minnesota	178	19	(10.7)	6	(3.4)	51	(28.7)	95	(53.4)	0	(0)	7	(3.9)	0	(0)	0	(0)
Mississippi	53	4	(7.5)	1	(1.9)	3	(5.7)	36	(67.9)	0	(0)	9	(17.0)	0	(0)	0	(0)
Missouri	87	11	(12.6)	1	(1.1)	18	(20.7)	26	(29.9)	1	(1.1)	28	(32.2)	1	(1.1)	1	(1.1)
Montana	3	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	3	(100.0)	0	(0)	0	(0)
Nebraska	21	4	(19.0)	0	(0)	11	(52.4)	2	(9.5)	0	(0)	3	(14.3)	1	(4.8)	0	(0)
Nevada	80	24	(30.0)	0	(0)	39	(48.8)	9	(11.3)	1	(1.3)	7	(8.8)	0	(0)	0	(0)
New Hampshire	19	1	(5.3)	0	(0)	11	(57.9)	3	(15.8)	0	(0)	4	(21.1)	0	(0)	0	(0)
New Jersey	284	71	(25.0)	0	(0)	145	(51.1)	42	(14.8)	1	(0.4)	25	(8.8)	0	(0)	0	(0)
New Mexico	37	26	(70.3)	3	(8.1)	4	(10.8)	3	(8.1)	0	(0)	1	(2.7)	0	(0)	0	(0)
New York State ³	193	54	(28.0)	0	(0)	79	(40.9)	34	(17.6)	0	(0)	26	(13.5)	0	(0)	0	(0)
New York City	613	159	(25.9)	0	(0)	265	(43.2)	116	(18.9)	0	(0)	47	(7.7)	10	(1.6)	16	(2.6)
North Carolina	213	54	(25.4)	7	(3.3)	53	(24.9)	65	(30.5)	2	(0.9)	26	(12.2)	6	(2.8)	0	(0)
North Dakota	14	0	(0)	4	(28.6)	5	(35.7)	3	(21.4)	0	(0)	2	(14.3)	0	(0)	0	(0)
Ohio	151	8	(5.3)	0	(0)	52	(34.4)	58	(38.4)	0	(0)	32	(21.2)	1	(0.7)	0	(0)
Oklahoma	54	8	(14.8)	1	(1.9)	11	(20.4)	9	(16.7)	8	(14.8)	14	(25.9)	3	(5.6)	0	(0)
Oregon	69	13	(18.8)	1	(1.4)	29	(42.0)	7	(10.1)	5	(7.2)	14	(20.3)	0	(0)	0	(0)
Pennsylvania	192	23	(12.0)	0	(0)	84	(43.8)	44	(22.9)	0	(0)	36	(18.8)	5	(2.6)	0	(0)
Rhode Island	13	3	(23.1)	0	(0)	6	(46.2)	3	(23.1)	0	(0)	1	(7.7)	0	(0)	0	(0)
South Carolina	101	15	(14.9)	0	(0)	13	(12.9)	46	(45.5)	0	(0)	27	(26.7)	0	(0)	0	(0)
South Dakota	14	0	(0)	6	(42.9)	3	(21.4)	2	(14.3)	0	(0)	1	(7.1)	2	(14.3)	0	(0)
Tennessee	128	28	(21.9)	0	(0.0)	25	(19.5)	42	(32.8)	0	(0)	33	(25.8)	0	(0)	0	(0)
Texas	1,127	592	(52.5)	0	(0.0)	223	(19.8)	211	(18.7)	2	(0.2)	96	(8.5)	3	(0.3)	0	(0)
Utah	29	15	(51.7)	1	(3.4)	5	(17.2)	2	(6.9)	4	(13.8)	2	(6.9)	0	(0)	0	(0)
Vermont	3	0	(0)	0	(0)	2	(66.7)	0	(0)	0	(0)	1	(33.3)	0	(0)	0	(0)
Virginia	204	42	(20.6)	0	(0)	91	(44.6)	46	(22.5)	0	(0)	25	(12.3)	0	(0)	0	(0)
Washington	207	35	(16.9)	7	(3.4)	85	(41.1)	40	(19.3)	14	(6.8)	19	(9.2)	5	(2.4)	2	(1.0)
West Virginia	16	0	(0)	0	(0)	5	(31.3)	3	(18.8)	0	(0)	8	(50.0)	0	(0)	0	(0)
Wisconsin	49	9	(18.4)	1	(2.0)	18	(36.7)	12	(24.5)	0	(0)	8	(16.3)	1	(2.0)	0	(0)
Wyoming	2	0	(0)	0	(0)	2	(100.0)	0	(0.0)	0	(0)	0	(0)	0	(0)	0	(0)
American Samoa ⁴	2	0	(0)	0	(0)	1	(50.0)	0	(0)	1	(50.0)	0	(0)	0	(0)	0	(0.0)
Fed. States of Micronesia ⁴	143	1	(0.7)	0	(0)	3	(2.1)	0	(0)	136	(95.1)	0	(0)	0	(0)	3	(2.1)
Guam ⁴	84	0	(0)	0	(0)	41	(48.8)	0	(0)	41	(48.8)	2	(2.4)	0	(0)	0	(0)
Marshall Islands ⁴	187	1	(0.5)	0	(0)	5	(2.7)	0	(0)	179	(95.7)	0	(0)	0	(0)	2	(1.1)
N. Mariana Islands ⁴	36	0	(0)	0	(0)	26	(72.2)	0	(0)	10	(27.8)	0	(0)	0	(0)	0	(0)
Puerto Rico ⁴	40	39	(97.5)	0	(0)	0	(0)	0	(0)	0	(0)	1	(2.5)	0	(0)	0	(0)
Republic of Palau ⁴	20	0	(0)	0	(0)	8	(40.0)	0	(0)	11	(55.0)	0	(0)	0	(0)	1	(5.0)
U.S. Virgin Islands ⁴	0	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...

¹Persons of Hispanic/Latino origin may be of any or multiple race.

²Indicates two or more races reported for a person and does not include persons of Hispanic/Latino origin.

³Excludes New York City.

⁴Not included in U.S. totals.

Note: Case counts for race categories (American Indian/Alaska Native, Asian, black/African American, Native Hawaiian/Other Pacific Islander, and white) are mutually exclusive and do not include persons of Hispanic ethnicity or multiple race.

Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

See Technical Notes.

Table 32. Tuberculosis Cases and Percentages, U.S.-Born and Non-U.S.-Born Persons¹: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table32.htm>.

Reporting Area	Total cases	U.S.-born Persons		Non-U.S.-born Persons ¹		Unknown origin	
		No.	(%)	No.	(%)	No.	(%)
UNITED STATES	9,105	2,705	(29.7)	6,384	(70.1)	16	(0.2)
Alabama	120	96	(80.0)	24	(20.0)	0	(0)
Alaska	53	38	(71.7)	15	(28.3)	0	(0)
Arizona	188	56	(29.8)	132	(70.2)	0	(0)
Arkansas	85	54	(63.5)	31	(36.5)	0	(0)
California	2,057	369	(17.9)	1,677	(81.5)	11	(0.5)
Colorado	84	21	(25.0)	63	(75.0)	0	(0)
Connecticut	63	12	(19.0)	51	(81.0)	0	(0)
Delaware	15	9	(60.0)	6	(40.0)	0	(0)
District of Columbia	36	12	(33.3)	24	(66.7)	0	(0)
Florida	549	225	(41.0)	324	(59.0)	0	(0)
Georgia	294	140	(47.6)	154	(52.4)	0	(0)
Hawaii	116	16	(13.8)	100	(86.2)	0	(0)
Idaho	10	2	(20.0)	8	(80.0)	0	(0)
Illinois	335	96	(28.7)	239	(71.3)	0	(0)
Indiana	100	27	(27.0)	73	(73.0)	0	(0)
Iowa	47	8	(17.0)	39	(83.0)	0	(0)
Kansas	29	9	(31.0)	20	(69.0)	0	(0)
Kentucky	65	33	(50.8)	32	(49.2)	0	(0)
Louisiana	141	91	(64.5)	50	(35.5)	0	(0)
Maine	14	2	(14.3)	12	(85.7)	0	(0)
Maryland	207	44	(21.3)	163	(78.7)	0	(0)
Massachusetts	210	28	(13.3)	182	(86.7)	0	(0)
Michigan	133	49	(36.8)	84	(63.2)	0	(0)
Minnesota	178	29	(16.3)	149	(83.7)	0	(0)
Mississippi	53	44	(83.0)	9	(17.0)	0	(0)
Missouri	87	38	(43.7)	46	(52.9)	3	(3.4)
Montana	3	3	(100.0)	0	(0)	0	(0)
Nebraska	21	3	(14.3)	18	(85.7)	0	(0)
Nevada	80	16	(20.0)	64	(80.0)	0	(0)
New Hampshire	19	6	(31.6)	13	(68.4)	0	(0)
New Jersey	284	52	(18.3)	232	(81.7)	0	(0)
New Mexico	37	7	(18.9)	30	(81.1)	0	(0)
New York State ²	193	30	(15.5)	163	(84.5)	0	(0)
New York City	613	87	(14.2)	526	(85.8)	0	(0)
North Carolina	213	95	(44.6)	118	(55.4)	0	(0)
North Dakota	14	7	(50.0)	7	(50.0)	0	(0)
Ohio	151	45	(29.8)	106	(70.2)	0	(0)
Oklahoma	54	29	(53.7)	25	(46.3)	0	(0)
Oregon	69	19	(27.5)	50	(72.5)	0	(0)
Pennsylvania	192	59	(30.7)	132	(68.8)	1	(0.5)
Rhode Island	13	1	(7.7)	12	(92.3)	0	(0)
South Carolina	101	70	(69.3)	31	(30.7)	0	(0)
South Dakota	14	8	(57.1)	6	(42.9)	0	(0)
Tennessee	128	67	(52.3)	61	(47.7)	0	(0)
Texas	1,127	445	(39.5)	682	(60.5)	0	(0)
Utah	29	7	(24.1)	22	(75.9)	0	(0)
Vermont	3	1	(33.3)	2	(66.7)	0	(0)
Virginia	204	37	(18.1)	167	(81.9)	0	(0)
Washington	207	41	(19.8)	165	(79.7)	1	(0.5)
West Virginia	16	9	(56.3)	7	(43.8)	0	(0)
Wisconsin	49	13	(26.5)	36	(73.5)	0	(0)
Wyoming	2	0	(0)	2	(100.0)	0	(0)

¹Includes persons born outside the United States (including the U.S. territories), except persons born to at least one U.S. citizen parent.

²Excludes New York City.

Note: See Surveillance Slide #12.

Table 33. Tuberculosis Cases and Percentages Among Non-U.S.–Born Persons¹, by Number of Years in the United States: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table33.htm>.

Reporting Area	Total cases	<1 year		1–4		5–9		10–19		≥20		Unknown/missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
UNITED STATES	6,384	1,040	(16.3)	1,062	(16.6)	764	(12.0)	1,153	(18.1)	1,738	(27.2)	627	(9.8)
Alabama	24	4	(16.7)	5	(20.8)	1	(4.2)	8	(33.3)	6	(25.0)	0	(0)
Alaska	15	2	(13.3)	0	(0)	4	(26.7)	3	(20.0)	4	(26.7)	2	(13.3)
Arizona	132	41	(31.1)	16	(12.1)	10	(7.6)	11	(8.3)	20	(15.2)	34	(25.8)
Arkansas	31	7	(22.6)	7	(22.6)	4	(12.9)	8	(25.8)	5	(16.1)	0	(0)
California	1,677	153	(9.1)	167	(10.0)	148	(8.8)	297	(17.7)	644	(38.4)	268	(16.0)
Colorado	63	9	(14.3)	14	(22.2)	5	(7.9)	15	(23.8)	11	(17.5)	9	(14.3)
Connecticut	51	12	(23.5)	5	(9.8)	6	(11.8)	13	(25.5)	15	(29.4)	0	(0)
Delaware	6	2	(33.3)	1	(16.7)	1	(16.7)	1	(16.7)	1	(16.7)	0	(0)
District of Columbia	24	1	(4.2)	9	(37.5)	3	(12.5)	9	(37.5)	2	(8.3)	0	(0)
Florida	324	73	(22.5)	50	(15.4)	33	(10.2)	74	(22.8)	94	(29.0)	0	(0)
Georgia	154	27	(17.5)	38	(24.7)	18	(11.7)	32	(20.8)	28	(18.2)	11	(7.1)
Hawaii	100	20	(20.0)	9	(9.0)	14	(14.0)	15	(15.0)	29	(29.0)	13	(13.0)
Idaho	8	5	(62.5)	1	(12.5)	2	(25.0)	0	(0)	0	(0)	0	(0)
Illinois	239	35	(14.6)	40	(16.7)	33	(13.8)	57	(23.8)	70	(29.3)	4	(1.7)
Indiana	73	17	(23.3)	15	(20.5)	7	(9.6)	10	(13.7)	5	(6.8)	19	(26.0)
Iowa	39	2	(5.1)	0	(0)	1	(2.6)	0	(0)	0	(0)	36	(92.3)
Kansas	20	2	(10.0)	3	(15.0)	3	(15.0)	6	(30.0)	6	(30.0)	0	(0)
Kentucky	32	4	(12.5)	11	(34.4)	11	(34.4)	3	(9.4)	3	(9.4)	0	(0)
Louisiana	50	12	(24.0)	9	(18.0)	10	(20.0)	6	(12.0)	10	(20.0)	3	(6.0)
Maine	12	3	(25.0)	5	(41.7)	2	(16.7)	1	(8.3)	1	(8.3)	0	(0)
Maryland	163	34	(20.9)	48	(29.4)	15	(9.2)	29	(17.8)	32	(19.6)	5	(3.1)
Massachusetts	182	38	(20.9)	38	(20.9)	25	(13.7)	27	(14.8)	26	(14.3)	28	(15.4)
Michigan	84	17	(20.2)	15	(17.9)	17	(20.2)	8	(9.5)	22	(26.2)	5	(6.0)
Minnesota	149	29	(19.5)	35	(23.5)	18	(12.1)	37	(24.8)	29	(19.5)	1	(0.7)
Mississippi	9	0	(0)	2	(22.2)	2	(22.2)	3	(33.3)	2	(22.2)	0	(0)
Missouri	46	7	(15.2)	15	(32.6)	5	(10.9)	12	(26.1)	6	(13.0)	1	(2.2)
Montana	0	0	...	0	...	0	...	0	...	0	...	0	...
Nebraska	18	1	(5.6)	10	(55.6)	6	(33.3)	1	(5.6)	0	(0)	0	(0)
Nevada	64	14	(21.9)	5	(7.8)	8	(12.5)	18	(28.1)	18	(28.1)	1	(1.6)
New Hampshire	13	2	(15.4)	4	(30.8)	3	(23.1)	1	(7.7)	1	(7.7)	2	(15.4)
New Jersey	232	30	(12.9)	36	(15.5)	20	(8.6)	35	(15.1)	51	(22.0)	60	(25.9)
New Mexico	30	11	(36.7)	5	(16.7)	1	(3.3)	4	(13.3)	9	(30.0)	0	(0)
New York State ²	163	27	(16.6)	39	(23.9)	30	(18.4)	23	(14.1)	41	(25.2)	3	(1.8)
New York City	526	68	(12.9)	103	(19.6)	70	(13.3)	96	(18.3)	148	(28.1)	41	(7.8)
North Carolina	118	18	(15.3)	22	(18.6)	13	(11.0)	16	(13.6)	17	(14.4)	32	(27.1)
North Dakota	7	0	(0)	4	(57.1)	1	(14.3)	0	(0)	2	(28.6)	0	(0)
Ohio	106	25	(23.6)	21	(19.8)	30	(28.3)	19	(17.9)	11	(10.4)	0	(0)
Oklahoma	25	4	(16.0)	6	(24.0)	1	(4.0)	7	(28.0)	5	(20.0)	2	(8.0)
Oregon	50	7	(14.0)	6	(12.0)	8	(16.0)	3	(6.0)	7	(14.0)	19	(38.0)
Pennsylvania	132	19	(14.4)	25	(18.9)	21	(15.9)	38	(28.8)	28	(21.2)	1	(0.8)
Rhode Island	12	3	(25.0)	4	(33.3)	0	(0)	3	(25.0)	2	(16.7)	0	(0)
South Carolina	31	7	(22.6)	6	(19.4)	5	(16.1)	7	(22.6)	5	(16.1)	1	(3.2)
South Dakota	6	1	(16.7)	2	(33.3)	1	(16.7)	1	(16.7)	1	(16.7)	0	(0)
Tennessee	61	8	(13.1)	10	(16.4)	13	(21.3)	13	(21.3)	17	(27.9)	0	(0)
Texas	682	168	(24.6)	117	(17.2)	76	(11.1)	103	(15.1)	204	(29.9)	14	(2.1)
Utah	22	3	(13.6)	7	(31.8)	4	(18.2)	4	(18.2)	4	(18.2)	0	(0)
Vermont	2	1	(50.0)	1	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)
Virginia	167	28	(16.8)	30	(18.0)	31	(18.6)	38	(22.8)	39	(23.4)	1	(0.6)
Washington	165	25	(15.2)	32	(19.4)	19	(11.5)	33	(20.0)	45	(27.3)	11	(6.7)
West Virginia	7	1	(14.3)	2	(28.6)	3	(42.9)	0	(0)	1	(14.3)	0	(0)
Wisconsin	36	13	(36.1)	5	(13.9)	2	(5.6)	5	(13.9)	11	(30.6)	0	(0)
Wyoming	2	0	(0)	2	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)

¹Includes persons born outside the United States (including the U.S. territories), except persons born to at least one U.S. citizen parent.

²Excludes New York City.

Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 34. Tuberculosis Cases and Percentages, by Pulmonary and Extrapulmonary Disease: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table34.htm>.

Reporting Area	Total cases	Pulmonary ¹		Extrapulmonary ²		Both pulmonary/extrapulmonary	
		No.	(%)	No.	(%)	No.	(%)
UNITED STATES	9,105	6,271	(68.9)	1,887	(20.7)	933	(10.2)
Alabama	120	97	(80.8)	19	(15.8)	4	(3.3)
Alaska	53	45	(84.9)	6	(11.3)	1	(1.9)
Arizona	188	141	(75.0)	29	(15.4)	18	(9.6)
Arkansas	85	66	(77.6)	17	(20.0)	2	(2.4)
California	2,057	1,436	(69.8)	386	(18.8)	235	(11.4)
Colorado	84	43	(51.2)	31	(36.9)	10	(11.9)
Connecticut	63	45	(71.4)	12	(19.0)	6	(9.5)
Delaware	15	8	(53.3)	6	(40.0)	1	(6.7)
District of Columbia	36	20	(55.6)	14	(38.9)	2	(5.6)
Florida	549	428	(78.0)	67	(12.2)	54	(9.8)
Georgia	294	201	(68.4)	57	(19.4)	33	(11.2)
Hawaii	116	83	(71.6)	18	(15.5)	15	(12.9)
Idaho	10	5	(50.0)	4	(40.0)	1	(10.0)
Illinois	335	235	(70.1)	73	(21.8)	27	(8.1)
Indiana	100	72	(72.0)	14	(14.0)	14	(14.0)
Iowa	47	26	(55.3)	11	(23.4)	10	(21.3)
Kansas	29	18	(62.1)	10	(34.5)	1	(3.4)
Kentucky	65	50	(76.9)	13	(20.0)	2	(3.1)
Louisiana	141	122	(86.5)	17	(12.1)	1	(0.7)
Maine	14	7	(50.0)	4	(28.6)	3	(21.4)
Maryland	207	127	(61.4)	52	(25.1)	28	(13.5)
Massachusetts	210	134	(63.8)	55	(26.2)	20	(9.5)
Michigan	133	68	(51.1)	48	(36.1)	17	(12.8)
Minnesota	178	97	(54.5)	57	(32.0)	24	(13.5)
Mississippi	53	40	(75.5)	7	(13.2)	6	(11.3)
Missouri	87	58	(66.7)	23	(26.4)	3	(3.4)
Montana	3	3	(100.0)	0	(0)	0	(0)
Nebraska	21	11	(52.4)	9	(42.9)	0	(0)
Nevada	80	56	(70.0)	20	(25.0)	4	(5.0)
New Hampshire	19	11	(57.9)	7	(36.8)	1	(5.3)
New Jersey	284	174	(61.3)	68	(23.9)	42	(14.8)
New Mexico	37	22	(59.5)	9	(24.3)	6	(16.2)
New York State ³	193	122	(63.2)	48	(24.9)	22	(11.4)
New York City	613	386	(63.0)	123	(20.1)	104	(17.0)
North Carolina	213	138	(64.8)	60	(28.2)	15	(7.0)
North Dakota	14	11	(78.6)	3	(21.4)	0	(0)
Ohio	151	118	(78.1)	33	(21.9)	0	(0)
Oklahoma	54	32	(59.3)	16	(29.6)	6	(11.1)
Oregon	69	41	(59.4)	24	(34.8)	3	(4.3)
Pennsylvania	192	127	(66.1)	39	(20.3)	26	(13.5)
Rhode Island	13	9	(69.2)	2	(15.4)	2	(15.4)
South Carolina	101	68	(67.3)	20	(19.8)	13	(12.9)
South Dakota	14	10	(71.4)	3	(21.4)	1	(7.1)
Tennessee	128	94	(73.4)	22	(17.2)	12	(9.4)
Texas	1,127	846	(75.1)	201	(17.8)	79	(7.0)
Utah	29	12	(41.4)	12	(41.4)	5	(17.2)
Vermont	3	1	(33.3)	2	(66.7)	0	(0.0)
Virginia	204	128	(62.7)	49	(24.0)	27	(13.2)
Washington	207	137	(66.2)	48	(23.2)	21	(10.1)
West Virginia	16	11	(68.8)	3	(18.8)	2	(12.5)
Wisconsin	49	31	(63.3)	14	(28.6)	4	(8.2)
Wyoming	2	0	(0)	2	(100.0)	0	(0)
American Samoa ⁴	2	1	(50.0)	1	(50.0)	0	(0)
Fed. States of Micronesia ⁴	143	121	(84.6)	19	(13.3)	3	(2.1)
Guam ⁴	84	80	(95.2)	3	(3.6)	1	(1.2)
Marshall Islands ⁴	187	144	(77.0)	35	(18.7)	8	(4.3)
N. Mariana Islands ⁴	36	33	(91.7)	3	(8.3)	0	(0)
Puerto Rico ⁴	40	38	(95.0)	1	(2.5)	1	(2.5)
Republic of Palau ⁴	20	20	(100.0)	0	(0)	0	(0)
U.S. Virgin Islands ⁴	0	0	...	0	...	0	...

¹Includes cases with pulmonary listed as the only site of disease.

²Includes cases with pleural, lymphatic, bone and/or joint, meningeal, peritoneal, genitourinary, or other site, excluding pulmonary, listed as the site of disease.

³Excludes New York City.

⁴Not included in U.S. totals.

Note: Fourteen cases had missing and/or unknown site of disease.

Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 35. Tuberculosis Risk Factors¹: Reporting Areas, 2017For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table35.htm>.

Reporting Area	Total cases	Contact ²		Non-HIV immunosuppression ³		Diabetes mellitus		HIV-positive		Post-organ transplantation		TNF- α inhibitors		Other ⁴		None		Unknown/missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
UNITED STATES	9,105	708	(7.8)	650	(7.1)	1,816	(19.9)	447	(4.9)	40	(0.4)	67	(0.7)	2,236	(24.6)	4,406	(48.4)	208	(2.3)
Alabama	120	27	(22.5)	9	(7.5)	12	(10.0)	4	(3.3)	1	(0.8)	0	(0)	19	(15.8)	56	(46.7)	0	(0)
Alaska	53	15	(28.3)	0	(0)	7	(13.2)	1	(1.9)	0	(0)	0	(0)	1	(1.9)	30	(56.6)	0	(0)
Arizona	188	15	(8.0)	10	(5.3)	35	(18.6)	10	(5.3)	0	(0)	5	(2.7)	36	(19.1)	102	(54.3)	0	(0)
Arkansas	85	23	(27.1)	3	(3.5)	10	(11.8)	1	(1.2)	0	(0)	0	(0.0)	19	(22.4)	33	(38.8)	5	(5.9)
California	2,057	98	(4.8)	177	(8.6)	582	(28.3)	68	(3.3)	15	(0.7)	19	(0.9)	655	(31.8)	786	(38.2)	48	(2.3)
Colorado	84	4	(4.8)	4	(4.8)	17	(20.2)	1	(1.2)	1	(1.2)	2	(2.4)	2	(2.4)	58	(69.0)	0	(0)
Connecticut	63	1	(1.6)	4	(6.3)	9	(14.3)	2	(3.2)	0	(0)	0	(0)	25	(39.7)	30	(47.6)	0	(0)
Delaware	15	1	(6.7)	3	(20.0)	4	(26.7)	2	(13.3)	0	(0)	0	(0)	6	(40.0)	4	(26.7)	0	(0)
District of Columbia	36	4	(11.1)	9	(25.0)	2	(5.6)	5	(13.9)	0	(0)	0	(0)	2	(5.6)	20	(55.6)	0	(0)
Florida	549	47	(8.6)	70	(12.8)	96	(17.5)	58	(10.6)	2	(0.4)	3	(0.5)	140	(25.5)	239	(43.5)	0	(0)
Georgia	294	46	(15.6)	15	(5.1)	49	(16.7)	24	(8.2)	0	(0)	1	(0.3)	78	(26.5)	141	(48.0)	2	(0.7)
Hawaii	116	8	(6.9)	4	(3.4)	44	(37.9)	0	(0)	0	(0)	0	(0)	14	(12.1)	59	(50.9)	0	(0)
Idaho	10	2	(20.0)	0	(0)	0	(0)	1	(10.0)	0	(0)	0	(0)	1	(10.0)	7	(70.0)	0	(0)
Illinois	335	44	(13.1)	24	(7.2)	52	(15.5)	13	(3.9)	0	(0)	0	(0)	26	(7.8)	205	(61.2)	4	(1.2)
Indiana	100	11	(11.0)	10	(10.0)	19	(19.0)	6	(6.0)	0	(0)	0	(0)	24	(24.0)	48	(48.0)	0	(0)
Iowa	47	1	(2.1)	5	(10.6)	5	(10.6)	3	(6.4)	0	(0)	0	(0)	14	(29.8)	32	(68.1)	0	(0)
Kansas	29	3	(10.3)	3	(10.3)	3	(10.3)	0	(0)	0	(0)	1	(3.4)	2	(6.9)	19	(65.5)	0	(0)
Kentucky	65	14	(21.5)	12	(18.5)	17	(26.2)	1	(1.5)	0	(0)	0	(0)	17	(26.2)	24	(36.9)	0	(0)
Louisiana	141	16	(11.3)	13	(9.2)	20	(14.2)	3	(2.1)	0	(0)	0	(0)	15	(10.6)	74	(52.5)	9	(6.4)
Maine	14	2	(14.3)	1	(7.1)	3	(21.4)	2	(14.3)	0	(0)	0	(0)	5	(35.7)	6	(42.9)	0	(0)
Maryland	207	17	(8.2)	11	(5.3)	28	(13.5)	24	(11.6)	2	(1.0)	2	(1.0)	17	(8.2)	123	(59.4)	15	(7.2)
Massachusetts	210	9	(4.3)	4	(1.9)	14	(6.7)	13	(6.2)	0	(0)	1	(0.5)	58	(27.6)	144	(68.6)	14	(6.7)
Michigan	133	7	(5.3)	10	(7.5)	21	(15.8)	4	(3.0)	2	(1.5)	1	(0.8)	57	(42.9)	0	(0)	55	(41.4)
Minnesota	178	36	(20.2)	16	(9.0)	37	(20.8)	7	(3.9)	1	(0.6)	2	(1.1)	88	(49.4)	53	(29.8)	0	(0)
Mississippi	53	7	(13.2)	3	(5.7)	11	(20.8)	8	(15.1)	1	(1.9)	1	(1.9)	48	(90.6)	2	(3.8)	0	(0)
Missouri	87	19	(21.8)	7	(8.0)	9	(10.3)	7	(8.0)	0	(0)	0	(0)	15	(17.2)	41	(47.1)	6	(7)
Montana	3	1	(33.3)	1	(33.3)	0	(0)	0	(0)	0	(0)	1	(33.3)	2	(66.7)	0	(0)	0	(0)
Nebraska	21	1	(4.8)	1	(4.8)	0	(0)	1	(4.8)	0	(0)	0	(0)	4	(19.0)	8	(38.1)	7	(33.3)
Nevada	80	2	(2.5)	3	(3.8)	23	(28.8)	5	(6.3)	0	(0)	1	(1.3)	3	(3.8)	51	(63.8)	0	(0)
New Hampshire	19	1	(5.3)	0	(0)	1	(5.3)	0	(0)	0	(0)	0	(0)	3	(15.8)	14	(73.7)	0	(0)
New Jersey	284	16	(5.6)	25	(8.8)	60	(21.1)	15	(5.3)	1	(0.4)	2	(0.7)	32	(11.3)	166	(58.5)	0	(0)
New Mexico	37	3	(8.1)	5	(13.5)	11	(29.7)	1	(2.7)	0	(0)	0	(0)	14	(37.8)	11	(29.7)	0	(0)
New York State ⁵	193	8	(4.1)	13	(6.7)	33	(17.1)	6	(3.1)	1	(0.5)	2	(1.0)	30	(15.5)	120	(62.2)	0	(0)
New York City ⁶	613	24	(3.9)	40	(6.5)	104	(17.0)	31	(5.1)	1	(0.2)	10	(1.6)	51	(8.3)	389	(63.5)	26	(4.2)
North Carolina	213	26	(12.2)	17	(8.0)	40	(18.8)	4	(1.9)	2	(0.9)	2	(0.9)	81	(38.0)	112	(52.6)	0	(0)
North Dakota	14	3	(21.4)	0	(0)	1	(7.1)	0	(0)	0	(0)	0	(0)	4	(28.6)	6	(42.9)	0	(0)
Ohio	151	10	(6.6)	9	(6.0)	13	(8.6)	2	(1.3)	0	(0)	0	(0)	20	(13.2)	103	(68.2)	1	(0.7)
Oklahoma	54	17	(31.5)	5	(9.3)	11	(20.4)	0	(0)	0	(0)	0	(0)	7	(13.0)	25	(46.3)	0	(0)
Oregon	69	4	(5.8)	6	(8.7)	18	(26.1)	5	(7.2)	0	(0)	2	(2.9)	14	(20.3)	34	(49.3)	1	(1.4)
Pennsylvania	192	4	(2.1)	19	(9.9)	37	(19.3)	10	(5.2)	2	(1.0)	3	(1.6)	31	(16.1)	116	(60.4)	0	(0)
Rhode Island	13	0	(0)	1	(7.7)	4	(30.8)	1	(7.7)	0	(0)	0	(0)	3	(23.1)	9	(69.2)	0	(0)
South Carolina	101	6	(5.9)	12	(11.9)	20	(19.8)	1	(1.0)	1	(1.0)	1	(1.0)	10	(9.9)	59	(58.4)	1	(1.0)
South Dakota	14	2	(14.3)	1	(7.1)	1	(7.1)	1	(7.1)	0	(0)	0	(0)	3	(21.4)	8	(57.1)	0	(0)
Tennessee	128	11	(8.6)	14	(10.9)	25	(19.5)	9	(7.0)	2	(1.6)	0	(0)	20	(15.6)	64	(50.0)	0	(0)
Texas	1,127	64	(5.7)	19	(1.7)	213	(18.9)	74	(6.6)	3	(0.3)	0	(0)	440	(39.0)	488	(43.3)	1	(0.1)
Utah	29	4	(13.8)	1	(3.4)	4	(13.8)	3	(10.3)	0	(0)	0	(0)	1	(3.4)	19	(65.5)	0	(0)
Vermont	3	0	(0)	1	(33.3)	0	(0)	0	(0)	0	(0)	0	(0)	3	(100.0)	0	(0)	0	(0)
Virginia	204	12	(5.9)	8	(3.9)	33	(16.2)	3	(1.5)	0	(0)	5	(2.5)	43	(21.1)	114	(55.9)	0	(0)
Washington	207	9	(4.3)	12	(5.8)	42	(20.3)	6	(2.9)	0	(0)	0	(0)	15	(7.2)	125	(60.4)	10	(4.8)
West Virginia	16	1	(6.3)	5	(31.3)	5	(31.3)	0	(0)	1	(6.3)	0	(0)	3	(18.8)	6	(37.5)	1	(6.3)
Wisconsin	49	2	(4.1)	5	(10.2)	11	(22.4)	1	(2.0)	1	(2.0)	0	(0)	15	(30.6)	23	(46.9)	0	(0)
Wyoming	2	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(100.0)
American Samoa ⁶	2	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)
Fed. States of Micronesia ⁶	143	54	(37.8)	0	(0)	8	(5.6)	0	(0)	0	(0)	0	(0)	71	(49.7)	7	(4.9)	3	(2.1)
Guam ⁶	84	0	(0)	2	(2.4)	35	(41.7)	1	(1.2)	0	(0)	0	(0)	0	(0)	44	(52.4)	4	(4.8)
Marshall Islands ⁶	187	63	(33.7)	1	(0.5)	59	(31.6)	0	(0)	0	(0)	0	(0)	4	(2.1)	58	(31.0)	5	(2.7)
N. Mariana Islands ⁶	36	2	(5.6)	0	(0)	14	(38.9)	0	(0)	0	(0)	0	(0)	2	(5.6)	1	(2.8)	18	(50.0)
Puerto Rico ⁶	40	1	(2.5)	0	(0)	13	(32.5)	11	(27.5)	0	(0)	0	(0)	3	(7.5)	24	(60.0)	0	(0)
Republic of Palau ⁶	20	3	(15.0)	2	(10.0)	6	(30.0)	0	(0)	0	(0)	0	(0)	1	(5.0)	8	(40.0)	0	(0)
U.S. Virgin Islands ⁶	0	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...

¹Includes the number of risk factors reported (which may be more than one per case) and the number of cases with no information on additional risk factors. The sum of risk factors is greater than the total number of cases because more than one risk factor may be selected per case.²Includes risk factor responses of MDR patient contact, missed contact, and infectious TB patient contact.³Includes risk factor responses of end-stage renal disease and non-HIV immunosuppression.⁴Includes risk factor responses of incomplete LTBI therapy and Other.⁵Excludes New York City.⁶Not included in U.S. totals.

Note: Ellipses (...) indicate the percentage cannot be calculated, and the denominator is 0.

Table 36. Primary Reason for Tuberculosis Evaluation¹: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table36.htm>.

Reporting Area	Total cases	TB Symptoms		Abnormal Chest Radiograph		Contact Investigation		Targeted Testing		Healthcare Worker		Administrative Testing		Immigrant Medical Exam		Incidental Lab Result		Unknown/missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
UNITED STATES	9,105	5,192	(57.0)	1,734	(19.0)	384	(4.2)	344	(3.8)	19	(0.2)	70	(0.8)	209	(2.3)	1,047	(11.5)	106	(1.2)
Alabama	120	56	(46.7)	31	(25.8)	12	(10.0)	0	(0)	1	(0.8)	1	(0.8)	0	(0)	19	(15.8)	0	(0)
Alaska	53	23	(43.4)	7	(13.2)	11	(20.8)	8	(15.1)	0	(0)	1	(1.9)	1	(1.9)	2	(3.8)	0	(0)
Arizona	188	88	(46.8)	30	(16.0)	11	(5.9)	37	(19.7)	0	(0)	0	(0)	4	(2.1)	18	(9.6)	0	(0)
Arkansas	85	30	(35.3)	13	(15.3)	21	(24.7)	8	(9.4)	1	(1.2)	0	(0)	1	(1.2)	11	(12.9)	0	(0)
California	2,057	1332	(64.8)	348	(16.9)	70	(3.4)	44	(2.1)	3	(0.1)	20	(1.0)	41	(2.0)	182	(8.8)	17	(0.8)
Colorado	84	64	(76.2)	6	(7.1)	4	(4.8)	2	(2.4)	1	(1.2)	0	(0)	4	(4.8)	3	(3.6)	0	(0)
Connecticut	63	49	(77.8)	4	(6.3)	2	(3.2)	0	(0.0)	0	(0)	0	(0)	1	(1.6)	4	(6.3)	3	(4.8)
Delaware	15	6	(40.0)	7	(46.7)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(13.3)	0	(0)
District of Columbia	36	30	(83.3)	1	(2.8)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	5	(13.9)	0	(0)
Florida	549	224	(40.8)	169	(30.8)	21	(3.8)	11	(2.0)	1	(0.2)	4	(0.7)	12	(2.2)	107	(19.5)	0	(0)
Georgia	294	135	(45.9)	71	(24.1)	27	(9.2)	12	(4.1)	1	(0.3)	1	(0.3)	8	(2.7)	35	(11.9)	4	(1.4)
Hawaii	116	65	(56.0)	18	(15.5)	2	(1.7)	0	(0)	0	(0)	8	(6.9)	10	(8.6)	13	(11.2)	0	(0)
Idaho	10	3	(30.0)	3	(30.0)	0	(0)	1	(10.0)	0	(0)	0	(0)	2	(20.0)	1	(10.0)	0	(0)
Illinois	335	204	(60.9)	63	(18.8)	11	(3.3)	8	(2.4)	2	(0.6)	6	(1.8)	10	(3.0)	31	(9.3)	0	(0)
Indiana	100	53	(53.0)	17	(17.0)	5	(5.0)	4	(4.0)	1	(1.0)	0	(0)	6	(6.0)	14	(14.0)	0	(0)
Iowa	47	37	(78.7)	1	(2.1)	0	(0)	2	(4.3)	1	(2.1)	4	(8.5)	1	(2.1)	1	(2.1)	0	(0)
Kansas	29	12	(41.4)	4	(13.8)	1	(3.4)	1	(3.4)	0	(0)	1	(3.4)	1	(3.4)	9	(31.0)	0	(0)
Kentucky	65	38	(58.5)	13	(20.0)	3	(4.6)	1	(1.5)	0	(0)	1	(1.5)	0	(0)	9	(13.8)	0	(0)
Louisiana	141	68	(48.2)	41	(29.1)	18	(12.8)	1	(0.7)	0	(0)	0	(0)	1	(0.7)	12	(8.5)	0	(0)
Maine	14	13	(92.9)	0	(0.0)	0	(0)	1	(7.1)	0	(0)	0	(0)	0	(0)	0	(0.0)	0	(0)
Maryland	207	117	(56.5)	38	(18.4)	8	(3.9)	11	(5.3)	2	(1.0)	3	(1.4)	6	(2.9)	16	(7.7)	6	(2.9)
Massachusetts	210	123	(58.6)	74	(35.2)	2	(1.0)	0	(0)	0	(0)	0	(0)	0	(0.0)	8	(3.8)	3	(1.4)
Michigan	133	69	(51.9)	34	(25.6)	5	(3.8)	0	(0)	0	(0)	0	(0)	4	(3.0)	21	(15.8)	0	(0)
Minnesota	178	139	(78.1)	5	(2.8)	25	(14.0)	3	(1.7)	0	(0)	0	(0)	5	(2.8)	1	(0.6)	0	(0)
Mississippi	53	11	(20.8)	19	(35.8)	2	(3.8)	3	(5.7)	0	(0)	0	(0)	0	(0)	18	(34.0)	0	(0)
Missouri	87	44	(50.6)	2	(2.3)	2	(2.3)	2	(2.3)	0	(0)	1	(1.1)	1	(1.1)	4	(4.6)	31	(35.6)
Montana	3	3	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Nebraska	21	10	(47.6)	3	(14.3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(9.5)	6	(28.6)
Nevada	80	40	(50.0)	17	(21.3)	1	(1.3)	2	(2.5)	0	(0)	3	(3.8)	7	(8.8)	10	(12.5)	0	(0)
New Hampshire	19	11	(57.9)	4	(21.1)	0	(0)	0	(0)	0	(0)	1	(5.3)	0	(0)	1	(5.3)	2	(10.5)
New Jersey	284	154	(54.2)	53	(18.7)	11	(3.9)	0	(0)	0	(0)	2	(0.7)	4	(1.4)	60	(21.1)	0	(0)
New Mexico	37	14	(37.8)	9	(24.3)	1	(2.7)	4	(10.8)	0	(0)	0	(0)	2	(5.4)	7	(18.9)	0	(0)
New York State ²	193	91	(47.2)	45	(23.3)	3	(1.6)	4	(2.1)	0	(0)	1	(0.5)	7	(3.6)	37	(19.2)	5	(2.6)
New York City	613	392	(63.9)	105	(17.1)	8	(1.3)	33	(5.4)	0	(0)	0	(0)	7	(1.1)	64	(10.4)	4	(0.7)
North Carolina	213	92	(43.2)	58	(27.2)	3	(1.4)	5	(2.3)	0	(0)	1	(0.5)	3	(1.4)	51	(23.9)	0	(0)
North Dakota	14	7	(50.0)	4	(28.6)	2	(14.3)	0	(0.0)	0	(0)	0	(0)	0	(0)	1	(7.1)	0	(0)
Ohio	151	65	(43.0)	48	(31.8)	1	(0.7)	2	(1.3)	1	(0.7)	0	(0)	4	(2.6)	30	(19.9)	0	(0)
Oklahoma	54	29	(53.7)	9	(16.7)	6	(11.1)	0	(0)	0	(0)	3	(5.6)	1	(1.9)	6	(11.1)	0	(0)
Oregon	69	58	(84.1)	5	(7.2)	1	(1.4)	0	(0)	0	(0)	0	(0)	1	(1.4)	0	(0.0)	4	(5.8)
Pennsylvania	192	106	(55.2)	51	(26.6)	3	(1.6)	2	(1.0)	0	(0)	2	(1.0)	9	(4.7)	19	(9.9)	0	(0)
Rhode Island	13	8	(61.5)	4	(30.8)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(7.7)	0	(0)
South Carolina	101	46	(45.5)	28	(27.7)	7	(6.9)	1	(1.0)	0	(0)	0	(0)	0	(0)	18	(17.8)	1	(1.0)
South Dakota	14	5	(35.7)	7	(50.0)	1	(7.1)	0	(0)	0	(0)	0	(0)	0	(0)	1	(7.1)	0	(0)
Tennessee	128	62	(48.4)	36	(28.1)	6	(4.7)	1	(0.8)	0	(0)	1	(0.8)	2	(1.6)	20	(15.6)	0	(0)
Texas	1,127	644	(57.1)	135	(12.0)	53	(4.7)	128	(11.4)	3	(0.3)	2	(0.2)	35	(3.1)	113	(10.0)	14	(1.2)
Utah	29	18	(62.1)	4	(13.8)	3	(10.3)	0	(0)	0	(0)	0	(0)	2	(6.9)	2	(6.9)	0	(0)
Vermont	3	1	(33.3)	2	(66.7)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Virginia	204	151	(74.0)	30	(14.7)	6	(2.9)	0	(0)	1	(0.5)	1	(0.5)	2	(1.0)	13	(6.4)	0	(0)
Washington	207	108	(52.2)	45	(21.7)	5	(2.4)	2	(1.0)	0	(0)	2	(1.0)	2	(1.0)	37	(17.9)	6	(2.9)
West Virginia	16	11	(68.8)	2	(12.5)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	3	(18.8)	0	(0)
Wisconsin	49	32	(65.3)	11	(22.4)	0	(0)	0	(0)	0	(0)	0	(0)	2	(4.1)	4	(8.2)	0	(0)
Wyoming	2	1	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(50.0)	0	(0)
American Samoa ³	2	2	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0.0)	0	(0)	0	(0)
Fed. States of Micronesia ³	143	91	(63.6)	1	(0.7)	42	(29.4)	0	(0)	0	(0)	1	(0.7)	0	(0.0)	7	(4.9)	1	(0.7)
Guam ³	84	52	(61.9)	17	(20.2)	13	(15.5)	0	(0)	0	(0)	0	(0)	1	(1.2)	1	(1.2)	0	(0)
Marshall Islands ³	187	104	(55.6)	54	(28.9)	13	(7.0)	13	(7.0)	0	(0)	1	(0.5)	0	(0)	1	(0.5)	1	(0.5)
N. Mariana Islands ³	36	24	(66.7)	11	(30.6)	1	(2.8)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Puerto Rico ³	40	11	(27.5)	24	(60.0)	0	(0)	0	(0)	0	(0)	1	(2.5)	0	(0)	4	(10.0)	0	(0)
Republic of Palau ³	20	13	(65.0)	1	(5.0)	3	(15.0)	0	(0)	0	(0)	1	(5.0)	2	(10.0)	0	(0)	0	(0)
U.S. Virgin Islands ³	0	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...

¹Each TB patient has only one primary reason for TB evaluation.

²Excludes New York City.

³Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 37. Tuberculosis Cases and Percentages, by Residence in and Type of Correctional Facilities¹, Ages ≥15 Years: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table37.htm>.

Reporting Area	Total cases	Cases with information on residence in correctional facilities ²		Cases reported as residents of correctional facilities ²		Federal prison		State prison		Local jail		Juvenile facility ³		Other type of facility		Unknown/missing		Cases with information on ICE custody ⁴		Cases under ICE custody	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
UNITED STATES	8,668	8,630	(99.6)	268	(3.1)	37	(13.8)	42	(15.7)	87	(32.5)	2	(0.7)	97	(36.2)	3	(1.1)	261	(97.4)	112	(42.9)
Alabama	108	108	(100.0)	4	(3.7)	1	(25.0)	2	(50.0)	1	(25.0)	0	(0)	0	(0)	0	(0)	4	(100.0)	0	(0)
Alaska	46	46	(100.0)	1	(2.2)	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
Arizona	173	173	(100.0)	34	(19.7)	0	(0)	2	(5.9)	1	(2.9)	1	(2.9)	30	(88.2)	0	(0)	34	(100.0)	19	(55.9)
Arkansas	68	68	(100.0)	2	(2.9)	0	(0)	1	(50.0)	1	(50.0)	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)
California	1,979	1,977	(99.9)	38	(1.9)	10	(26.3)	3	(7.9)	11	(28.9)	0	(0)	14	(36.8)	0	(0)	38	(100.0)	21	(55.3)
Colorado	80	80	(100.0)	3	(3.8)	1	(33.3)	0	(0)	1	(33.3)	0	(0)	1	(33.3)	0	(0)	2	(66.7)	0	(0)
Connecticut	60	60	(100.0)	1	(1.7)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
Delaware	15	15	(100.0)	2	(13.3)	0	(0)	2	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(50.0)	0	(0)
District of Columbia	35	35	(100.0)	1	(2.9)	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
Florida	537	537	(100.0)	12	(2.2)	1	(8.3)	4	(33.3)	7	(58.3)	0	(0)	0	(0)	0	(0)	12	(100.0)	3	(25.0)
Georgia	272	270	(99.3)	9	(3.3)	0	(0.0)	3	(33.3)	4	(44.4)	0	(0)	2	(22.2)	0	(0)	9	(100.0)	4	(44.4)
Hawaii	112	112	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Idaho	8	8	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Illinois	322	320	(99.4)	2	(0.6)	0	(0)	0	(0)	1	(50.0)	0	(0)	1	(50.0)	0	(0)	2	(100.0)	0	(0)
Indiana	94	94	(100.0)	1	(1.1)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)	1	(100.0)	1	(100.0)
Iowa	45	45	(100.0)	1	(2.2)	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	1	(100.0)
Kansas	29	29	(100.0)	1	(3.4)	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	1	(100.0)
Kentucky	60	60	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Louisiana	129	125	(96.9)	3	(2.4)	1	(33.3)	1	(33.3)	1	(33.3)	0	(0)	0	(0)	0	(0)	3	(100.0)	1	(33.3)
Maine	13	13	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Maryland	199	196	(98.5)	1	(0.5)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)	1	(100.0)	1	(100.0)
Massachusetts	199	192	(96.5)	3	(1.6)	0	(0)	0	(0)	1	(33.3)	0	(0)	1	(33.3)	1	(33.3)	3	(100.0)	1	(33.3)
Michigan	125	125	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Minnesota	155	155	(100.0)	2	(1.3)	0	(0)	1	(50.0)	1	(50.0)	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)
Mississippi	51	51	(100.0)	2	(3.9)	0	(0)	2	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)
Missouri	80	80	(100.0)	7	(8.8)	1	(14.3)	1	(14.3)	5	(71.4)	0	(0)	0	(0)	0	(0)	4	(57.1)	0	(0)
Montana	3	3	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Nebraska	20	19	(95.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Nevada	79	79	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
New Hampshire	19	19	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
New Jersey	266	266	(100.0)	1	(0.4)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
New Mexico	37	37	(100.0)	6	(16.2)	0	(0)	0	(0)	1	(16.7)	0	(0)	5	(83.3)	0	(0)	6	(100.0)	4	(66.7)
New York State ⁵	185	184	(99.5)	1	(0.5)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	1	(100.0)	0	(0)
New York City	598	587	(98.2)	4	(0.7)	1	(25.0)	0	(0)	2	(50.0)	0	(0)	1	(25.0)	0	(0)	4	(100.0)	1	(25.0)
North Carolina	201	201	(100.0)	3	(1.5)	0	(0)	0	(0)	3	(100.0)	0	(0)	0	(0)	0	(0)	3	(100.0)	0	(0)
North Dakota	14	14	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Ohio	150	150	(100.0)	1	(0.7)	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	1	(100.0)
Oklahoma	49	49	(100.0)	1	(2.0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
Oregon	69	69	(100.0)	1	(1.4)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	1	(100.0)	0	(0)
Pennsylvania	190	190	(100.0)	2	(1.1)	0	(0)	0	(0)	2	(100.0)	0	(0)	0	(0)	0	(0)	2	(100.0)	1	(50.0)
Rhode Island	12	12	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
South Carolina	94	94	(100.0)	2	(2.1)	0	(0)	0	(0)	2	(100.0)	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)
South Dakota	14	14	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Tennessee	120	120	(100.0)	10	(8.3)	0	(0)	0	(0)	9	(90.0)	0	(0)	1	(10.0)	0	(0)	10	(100.0)	0	(0)
Texas	1,070	1,070	(100.0)	90	(8.4)	20	(22.2)	17	(18.9)	24	(26.7)	0	(0)	28	(31.1)	1	(1.1)	88	(97.8)	40	(45.5)
Utah	22	22	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Vermont	3	3	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Virginia	195	195	(100.0)	2	(1.0)	0	(0)	0	(0)	2	(100.0)	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)
Washington	199	194	(97.5)	13	(6.7)	0	(0)	0	(0)	2	(15.4)	0	(0)	11	(84.6)	0	(0)	13	(100.0)	12	(92.3)
West Virginia	16	16	(100.0)	1	(6.3)	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
Wisconsin	47	47	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Wyoming	2	2	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
American Samoa ⁶	2	2	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Fed. States of Micronesia ⁶	91	91	(100.0)	1	(1.1)	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
Guam ⁶	75	75	(100.0)	1	(1.3)	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
Marshall Islands ⁶	147	147	(100.0)	1	(0.7)	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
N. Mariana Islands ⁶	32	31	(96.9)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Puerto Rico ⁶	39	39	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
Republic of Palau ⁶	18	18	(100.0)	0	(0)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)	0	(...)
U.S. Virgin Islands ⁶	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

¹Resident of correctional facility at time of TB diagnosis. Percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia).

²Percent of those with known status.

³Excludes youth who are <15 years of age.

⁴Immigration and Customs Enforcement (ICE) detention among cases who were residents in correctional facilities.

⁵Excludes New York City.

⁶Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

See Surveillance Slide #22.

Table 38. Tuberculosis Cases and Percentages, by Homeless Status¹, Ages ≥15 Years: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table38.htm>.

Reporting Area	Total cases	Cases with Information on Homeless Status		Cases Reported as Being Homeless ²	
		No.	(%)	No.	(%)
UNITED STATES	8,668	8,592	(99.1)	397	(4.6)
Alabama	108	108	(100.0)	7	(6.5)
Alaska	46	46	(100.0)	2	(4.3)
Arizona	173	171	(98.8)	17	(9.9)
Arkansas	68	68	(100.0)	4	(5.9)
California	1,979	1,975	(99.8)	106	(5.4)
Colorado	80	80	(100.0)	4	(5.0)
Connecticut	60	60	(100.0)	1	(1.7)
Delaware	15	14	(93.3)	0	(0)
District of Columbia	35	35	(100.0)	8	(22.9)
Florida	537	523	(97.4)	32	(6.1)
Georgia	272	271	(99.6)	16	(5.9)
Hawaii	112	110	(98.2)	4	(3.6)
Idaho	8	8	(100.0)	0	(0)
Illinois	322	320	(99.4)	13	(4.1)
Indiana	94	94	(100.0)	4	(4.3)
Iowa	45	45	(100.0)	1	(2.2)
Kansas	29	29	(100.0)	4	(13.8)
Kentucky	60	60	(100.0)	1	(1.7)
Louisiana	129	127	(98.4)	3	(2.4)
Maine	13	13	(100.0)	0	(0)
Maryland	199	196	(98.5)	5	(2.6)
Massachusetts	199	192	(96.5)	9	(4.7)
Michigan	125	125	(100.0)	2	(1.6)
Minnesota	155	155	(100.0)	7	(4.5)
Mississippi	51	51	(100.0)	7	(13.7)
Missouri	80	80	(100.0)	2	(2.5)
Montana	3	3	(100.0)	0	(0)
Nebraska	20	18	(90.0)	1	(5.6)
Nevada	79	79	(100.0)	4	(5.1)
New Hampshire	19	19	(100.0)	1	(5.3)
New Jersey	266	266	(100.0)	4	(1.5)
New Mexico	37	31	(83.8)	0	(0)
New York State ³	185	183	(98.9)	7	(3.8)
New York City	598	585	(97.8)	23	(3.9)
North Carolina	201	201	(100.0)	8	(4.0)
North Dakota	14	14	(100.0)	0	(0)
Ohio	150	150	(100.0)	7	(4.7)
Oklahoma	49	47	(95.9)	0	(0)
Oregon	69	69	(100.0)	4	(5.8)
Pennsylvania	190	190	(100.0)	4	(2.1)
Rhode Island	12	12	(100.0)	0	(0)
South Carolina	94	94	(100.0)	6	(6.4)
South Dakota	14	14	(100.0)	0	(0)
Tennessee	120	120	(100.0)	14	(11.7)
Texas	1,070	1,066	(99.6)	40	(3.8)
Utah	22	22	(100.0)	0	(0)
Vermont	3	3	(100.0)	0	(0)
Virginia	195	195	(100.0)	6	(3.1)
Washington	199	190	(95.5)	8	(4.2)
West Virginia	16	16	(100.0)	0	(0)
Wisconsin	47	47	(100.0)	1	(2.1)
Wyoming	2	2	(100.0)	0	(0)
American Samoa ⁴	2	2	(100.0)	0	(0)
Fed. States of Micronesia ⁴	91	91	(100.0)	0	(0)
Guam ⁴	75	75	(100.0)	3	(4.0)
Marshall Islands ⁴	147	147	(100.0)	0	(0)
N. Mariana Islands ⁴	32	32	(100.0)	0	(0)
Puerto Rico ⁴	39	39	(100.0)	1	(2.6)
Republic of Palau ⁴	18	18	(100.0)	0	(0)
U.S. Virgin Islands ⁴	0	0	...	0	...

¹Homeless within past 12 months of TB diagnosis. Percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia).

²Percent of those with known status.

³Excludes New York City.

⁴Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0. See Surveillance Slide #23.

Table 39. Tuberculosis Cases and Percentages, by Residence in Long-Term Care Facilities¹, Ages ≥15 Years: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table39.htm>.

Reporting Area	Total cases	Cases with Information on Residence in Long-term Care Facilities		Cases Reported as Residents of Long-term Care Facilities ²	
		No.	(%)	No.	(%)
UNITED STATES	8,668	8,628	(99.5)	150	(1.7)
Alabama	108	108	(100.0)	1	(0.9)
Alaska	46	46	(100.0)	2	(4.3)
Arizona	173	173	(100.0)	4	(2.3)
Arkansas	68	68	(100.0)	0	(0)
California	1,979	1,977	(99.9)	42	(2.1)
Colorado	80	80	(100.0)	1	(1.3)
Connecticut	60	60	(100.0)	0	(0)
Delaware	15	15	(100.0)	0	(0)
District of Columbia	35	35	(100.0)	0	(0)
Florida	537	537	(100.0)	6	(1.1)
Georgia	272	270	(99.3)	2	(0.7)
Hawaii	112	112	(100.0)	0	(0)
Idaho	8	8	(100.0)	0	(0)
Illinois	322	320	(99.4)	9	(2.8)
Indiana	94	94	(100.0)	2	(2.1)
Iowa	45	45	(100.0)	0	(0)
Kansas	29	29	(100.0)	0	(0)
Kentucky	60	60	(100.0)	5	(8.3)
Louisiana	129	127	(98.4)	4	(3.1)
Maine	13	13	(100.0)	0	(0)
Maryland	199	195	(98.0)	2	(1.0)
Massachusetts	199	192	(96.5)	0	(0)
Michigan	125	125	(100.0)	3	(2.4)
Minnesota	155	155	(100.0)	6	(3.9)
Mississippi	51	51	(100.0)	1	(2.0)
Missouri	80	80	(100.0)	2	(2.5)
Montana	3	3	(100.0)	0	(0)
Nebraska	20	19	(95.0)	0	(0)
Nevada	79	79	(100.0)	1	(1.3)
New Hampshire	19	19	(100.0)	0	(0)
New Jersey	266	266	(100.0)	9	(3.4)
New Mexico	37	37	(100.0)	0	(0)
New York State ³	185	184	(99.5)	4	(2.2)
New York City	598	587	(98.2)	8	(1.4)
North Carolina	201	201	(100.0)	1	(0.5)
North Dakota	14	14	(100.0)	0	(0)
Ohio	150	150	(100.0)	3	(2.0)
Oklahoma	49	49	(100.0)	0	(0)
Oregon	69	69	(100.0)	0	(0)
Pennsylvania	190	190	(100.0)	7	(3.7)
Rhode Island	12	11	(91.7)	0	(0)
South Carolina	94	94	(100.0)	0	(0)
South Dakota	14	14	(100.0)	0	(0)
Tennessee	120	120	(100.0)	3	(2.5)
Texas	1,070	1,069	(99.9)	15	(1.4)
Utah	22	22	(100.0)	0	(0)
Vermont	3	3	(100.0)	0	(0)
Virginia	195	195	(100.0)	4	(2.1)
Washington	199	193	(97.0)	3	(1.6)
West Virginia	16	16	(100.0)	0	(0)
Wisconsin	47	47	(100.0)	0	(0)
Wyoming	2	2	(100.0)	0	(0)
American Samoa ⁴	2	2	(100.0)	0	(0)
Fed. States of Micronesia ⁴	91	90	(98.9)	0	(0)
Guam ⁴	75	74	(98.7)	0	(0)
Marshall Islands ⁴	147	145	(98.6)	0	(0)
N. Mariana Islands ⁴	32	31	(96.9)	0	(0)
Puerto Rico ⁴	39	39	(100.0)	1	(2.6)
Republic of Palau ⁴	18	18	(100.0)	0	(0)
U.S. Virgin Islands ⁴	0	0	...	0	...

¹Resident of long-term care facility at time of TB diagnosis. Percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia).

²Percent of those with known status.

³Excludes New York City.

⁴Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 40. Tuberculosis Cases and Percentages, by Injecting Drug Use¹, Ages ≥15 Years: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table40.htm>.

Reporting Area	Total cases	Cases with Information on Injecting Drug Use		Cases Reporting Injecting Drug Use	
		No.	(%)	No.	(%)
UNITED STATES	8,668	8,518	(98.3)	101	(1.2)
Alabama	108	107	(99.1)	1	(0.9)
Alaska	46	46	(100.0)	0	(0)
Arizona	173	171	(98.8)	1	(0.6)
Arkansas	68	68	(100.0)	1	(1.5)
California	1,979	1,933	(97.7)	21	(1.1)
Colorado	80	78	(97.5)	2	(2.6)
Connecticut	60	60	(100.0)	0	(0)
Delaware	15	14	(93.3)	0	(0)
District of Columbia	35	35	(100.0)	0	(0)
Florida	537	523	(97.4)	9	(1.7)
Georgia	272	263	(96.7)	4	(1.5)
Hawaii	112	112	(100.0)	1	(0.9)
Idaho	8	8	(100.0)	0	(0)
Illinois	322	318	(98.8)	6	(1.9)
Indiana	94	94	(100.0)	1	(1.1)
Iowa	45	45	(100.0)	1	(2.2)
Kansas	29	29	(100.0)	2	(6.9)
Kentucky	60	60	(100.0)	1	(1.7)
Louisiana	129	120	(93.0)	5	(4.2)
Maine	13	13	(100.0)	0	(0)
Maryland	199	194	(97.5)	0	(0)
Massachusetts	199	195	(98.0)	2	(1.0)
Michigan	125	125	(100.0)	1	(0.8)
Minnesota	155	155	(100.0)	2	(1.3)
Mississippi	51	51	(100.0)	2	(3.9)
Missouri	80	80	(100.0)	2	(2.5)
Montana	3	3	(100.0)	0	(0)
Nebraska	20	17	(85.0)	1	(5.9)
Nevada	79	77	(97.5)	0	(0.0)
New Hampshire	19	19	(100.0)	0	(0)
New Jersey	266	265	(99.6)	6	(2.3)
New Mexico	37	37	(100.0)	0	(0)
New York State ²	185	179	(96.8)	2	(1.1)
New York City	598	588	(98.3)	3	(0.5)
North Carolina	201	201	(100.0)	0	(0)
North Dakota	14	14	(100.0)	0	(0)
Ohio	150	149	(99.3)	2	(1.3)
Oklahoma	49	49	(100.0)	0	(0)
Oregon	69	69	(100.0)	1	(1.4)
Pennsylvania	190	189	(99.5)	1	(0.5)
Rhode Island	12	11	(91.7)	0	(0)
South Carolina	94	90	(95.7)	1	(1.1)
South Dakota	14	14	(100.0)	0	(0)
Tennessee	120	120	(100.0)	2	(1.7)
Texas	1,070	1,058	(98.9)	13	(1.2)
Utah	22	22	(100.0)	0	(0)
Vermont	3	3	(100.0)	0	(0)
Virginia	195	195	(100.0)	2	(1.0)
Washington	199	187	(94.0)	2	(1.1)
West Virginia	16	16	(100.0)	0	(0)
Wisconsin	47	47	(100.0)	0	(0)
Wyoming	2	2	(100.0)	0	(0)
American Samoa ³	2	2	(100.0)	0	(0)
Fed. States of Micronesia ³	91	91	(100.0)	0	(0)
Guam ³	75	70	(93.3)	0	(0)
Marshall Islands ³	147	147	(100.0)	0	(0)
N. Mariana Islands ³	32	31	(96.9)	0	(0)
Puerto Rico ³	39	39	(100.0)	3	(7.7)
Republic of Palau ³	18	18	(100.0)	0	(0)
U.S. Virgin Islands ³	0	0	...	0	...

¹Injecting drug use within past 12 months of TB diagnosis. Percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia).

²Excludes New York City.

³Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 41. Tuberculosis Cases and Percentages, by Noninjecting Drug Use¹, Ages ≥15 Years: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table41.htm>.

Reporting Area	Total cases	Cases with Information on Noninjecting Drug Use		Cases Reporting Noninjecting Drug Use	
		No.	(%)	No.	(%)
UNITED STATES	8,668	8,527	(98.4)	573	(6.7)
Alabama	108	107	(99.1)	23	(21.5)
Alaska	46	46	(100.0)	7	(15.2)
Arizona	173	171	(98.8)	22	(12.9)
Arkansas	68	68	(100.0)	5	(7.4)
California	1,979	1,939	(98.0)	120	(6.2)
Colorado	80	78	(97.5)	6	(7.7)
Connecticut	60	60	(100.0)	4	(6.7)
Delaware	15	15	(100.0)	1	(6.7)
District of Columbia	35	35	(100.0)	2	(5.7)
Florida	537	524	(97.6)	40	(7.6)
Georgia	272	265	(97.4)	29	(10.9)
Hawaii	112	112	(100.0)	1	(0.9)
Idaho	8	8	(100.0)	0	(0)
Illinois	322	318	(98.8)	22	(6.9)
Indiana	94	94	(100.0)	5	(5.3)
Iowa	45	45	(100.0)	1	(2.2)
Kansas	29	29	(100.0)	2	(6.9)
Kentucky	60	60	(100.0)	4	(6.7)
Louisiana	129	120	(93.0)	14	(11.7)
Maine	13	13	(100.0)	0	(0)
Maryland	199	191	(96.0)	9	(4.7)
Massachusetts	199	195	(98.0)	3	(1.5)
Michigan	125	125	(100.0)	6	(4.8)
Minnesota	155	155	(100.0)	4	(2.6)
Mississippi	51	51	(100.0)	12	(23.5)
Missouri	80	80	(100.0)	7	(8.8)
Montana	3	3	(100.0)	0	(0)
Nebraska	20	16	(80.0)	0	(0)
Nevada	79	77	(97.5)	3	(3.9)
New Hampshire	19	19	(100.0)	1	(5.3)
New Jersey	266	265	(99.6)	8	(3.0)
New Mexico	37	37	(100.0)	3	(8.1)
New York State ²	185	181	(97.8)	5	(2.8)
New York City	598	587	(98.2)	27	(4.6)
North Carolina	201	201	(100.0)	14	(7.0)
North Dakota	14	14	(100.0)	3	(21.4)
Ohio	150	149	(99.3)	9	(6.0)
Oklahoma	49	49	(100.0)	2	(4.1)
Oregon	69	67	(97.1)	4	(6.0)
Pennsylvania	190	189	(99.5)	5	(2.6)
Rhode Island	12	11	(91.7)	0	(0)
South Carolina	94	91	(96.8)	8	(8.8)
South Dakota	14	14	(100.0)	0	(0)
Tennessee	120	120	(100.0)	19	(15.8)
Texas	1,070	1,059	(99.0)	94	(8.9)
Utah	22	22	(100.0)	0	(0)
Vermont	3	3	(100.0)	0	(0)
Virginia	195	195	(100.0)	4	(2.1)
Washington	199	189	(95.0)	11	(5.8)
West Virginia	16	16	(100.0)	1	(6.3)
Wisconsin	47	47	(100.0)	3	(6.4)
Wyoming	2	2	(100.0)	0	(0)
American Samoa ³	2	2	(100.0)	0	(0)
Fed. States of Micronesia ³	91	91	(100.0)	3	(3.3)
Guam ³	75	70	(93.3)	0	(0)
Marshall Islands ³	147	147	(100.0)	1	(0.7)
N. Mariana Islands ³	32	30	(93.8)	1	(3.3)
Puerto Rico ³	39	39	(100.0)	8	(20.5)
Republic of Palau ³	18	18	(100.0)	0	(0)
U.S. Virgin Islands ³	0	0	...	0	...

¹Noninjecting drug use within past 12 months of TB diagnosis. Percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia).

²Excludes New York City.

³Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 42. Tuberculosis Cases and Percentages, by Excess Alcohol Use¹, Ages ≥15 Years: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table42.htm>.

Reporting Area	Total cases	Cases with Information on Excess Alcohol Use		Cases Reporting Excess Alcohol Use	
		No.	(%)	No.	(%)
UNITED STATES	8,668	8,504	(98.1)	753	(8.9)
Alabama	108	108	(100.0)	19	(17.6)
Alaska	46	46	(100.0)	10	(21.7)
Arizona	173	171	(98.8)	10	(5.8)
Arkansas	68	68	(100.0)	5	(7.4)
California	1,979	1,939	(98.0)	122	(6.3)
Colorado	80	79	(98.8)	7	(8.9)
Connecticut	60	60	(100.0)	2	(3.3)
Delaware	15	15	(100.0)	1	(6.7)
District of Columbia	35	35	(100.0)	7	(20.0)
Florida	537	526	(98.0)	73	(13.9)
Georgia	272	264	(97.1)	40	(15.2)
Hawaii	112	112	(100.0)	4	(3.6)
Idaho	8	8	(100.0)	0	(0)
Illinois	322	318	(98.8)	38	(11.9)
Indiana	94	94	(100.0)	9	(9.6)
Iowa	45	45	(100.0)	6	(13.3)
Kansas	29	29	(100.0)	10	(34.5)
Kentucky	60	60	(100.0)	7	(11.7)
Louisiana	129	120	(93.0)	21	(17.5)
Maine	13	13	(100.0)	1	(7.7)
Maryland	199	193	(97.0)	14	(7.3)
Massachusetts	199	195	(98.0)	5	(2.6)
Michigan	125	125	(100.0)	5	(4.0)
Minnesota	155	155	(100.0)	4	(2.6)
Mississippi	51	51	(100.0)	6	(11.8)
Missouri	80	80	(100.0)	10	(12.5)
Montana	3	3	(100.0)	1	(33.3)
Nebraska	20	15	(75.0)	1	(6.7)
Nevada	79	77	(97.5)	0	(0)
New Hampshire	19	19	(100.0)	4	(21.1)
New Jersey	266	265	(99.6)	20	(7.5)
New Mexico	37	37	(100.0)	4	(10.8)
New York State ²	185	178	(96.2)	17	(9.6)
New York City	598	573	(95.8)	13	(2.3)
North Carolina	201	201	(100.0)	20	(10.0)
North Dakota	14	14	(100.0)	2	(14.3)
Ohio	150	149	(99.3)	18	(12.1)
Oklahoma	49	48	(98.0)	3	(6.3)
Oregon	69	69	(100.0)	6	(8.7)
Pennsylvania	190	189	(99.5)	12	(6.3)
Rhode Island	12	12	(100.0)	0	(0)
South Carolina	94	92	(97.9)	18	(19.6)
South Dakota	14	14	(100.0)	1	(7.1)
Tennessee	120	120	(100.0)	21	(17.5)
Texas	1,070	1,049	(98.0)	129	(12.3)
Utah	22	22	(100.0)	1	(4.5)
Vermont	3	3	(100.0)	1	(33.3)
Virginia	195	195	(100.0)	6	(3.1)
Washington	199	186	(93.5)	13	(7.0)
West Virginia	16	16	(100.0)	1	(6.3)
Wisconsin	47	47	(100.0)	5	(10.6)
Wyoming	2	2	(100.0)	0	(0)
American Samoa ³	2	2	(100.0)	0	(0)
Fed. States of Micronesia ³	91	91	(100.0)	1	(1.1)
Guam ³	75	71	(94.7)	1	(1.4)
Marshall Islands ³	147	146	(99.3)	31	(21.2)
N. Mariana Islands ³	32	31	(96.9)	1	(3.2)
Puerto Rico ³	39	39	(100.0)	6	(15.4)
Republic of Palau ³	18	18	(100.0)	0	(0)
U.S. Virgin Islands ³	0	0	...	0	...

¹Excess alcohol use within past 12 months of TB diagnosis. Percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia).

²Excludes New York City.

³Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 43. Tuberculosis Cases and Percentages, by Primary Occupation, Ages ≥15 Years: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table43.htm>.

Reporting Area	Total cases	Cases with Information on Occupation		Percentage of Cases by Occupation ¹						
		No.	(%)	Unemployed	Healthcare Worker	Correctional Employee	Migrant worker	Retired	Not Seeking Employment	Other
UNITED STATES	8,668	8,404	(97.0)	(22.7)	(4.0)	(0.1)	(1.3)	(17.3)	(16.9)	(37.7)
Alabama	108	108	(100.0)	(15.7)	(0)	(0.9)	(0.9)	(14.8)	(25.9)	(41.7)
Alaska	46	45	(97.8)	(35.6)	(4.4)	(0)	(4.4)	(4.4)	(31.1)	(20.0)
Arizona	173	160	(92.5)	(14.4)	(5.6)	(0)	(1.9)	(18.8)	(21.9)	(37.5)
Arkansas	68	68	(100.0)	(27.9)	(8.8)	(0)	(0)	(20.6)	(11.8)	(30.9)
California	1,979	1,943	(98.2)	(16.8)	(4.6)	(0)	(1.9)	(25.0)	(18.5)	(33.2)
Colorado	80	80	(100.0)	(11.3)	(1.3)	(0)	(2.5)	(11.3)	(31.3)	(42.5)
Connecticut	60	59	(98.3)	(11.9)	(5.1)	(0)	(1.7)	(27.1)	(13.6)	(40.7)
Delaware	15	14	(93.3)	(28.6)	(0)	(0)	(0)	(28.6)	(14.3)	(28.6)
District of Columbia	35	35	(100.0)	(65.7)	(0)	(0)	(0)	(11.4)	(0)	(22.9)
Florida	537	450	(83.8)	(54.2)	(3.6)	(0)	(1.3)	(5.8)	(1.1)	(34.0)
Georgia	272	262	(96.3)	(30.5)	(0.8)	(0)	(1.1)	(11.1)	(14.9)	(41.6)
Hawaii	112	110	(98.2)	(15.5)	(5.5)	(0)	(0)	(25.5)	(10.0)	(43.6)
Idaho	8	8	(100.0)	(0)	(0)	(0)	(12.5)	(12.5)	(12.5)	(62.5)
Illinois	322	317	(98.4)	(13.9)	(4.1)	(0)	(2.2)	(21.8)	(21.1)	(36.9)
Indiana	94	94	(100.0)	(18.1)	(2.1)	(0)	(0)	(20.2)	(17.0)	(42.6)
Iowa	45	45	(100.0)	(4.4)	(4.4)	(0)	(0)	(15.6)	(22.2)	(53.3)
Kansas	29	29	(100.0)	(0.0)	(24.1)	(0)	(0)	(20.7)	(10.3)	(44.8)
Kentucky	60	60	(100.0)	(10.0)	(1.7)	(0)	(3.3)	(18.3)	(33.3)	(33.3)
Louisiana	129	114	(88.4)	(9.6)	(1.8)	(0)	(1.8)	(12.3)	(29.8)	(44.7)
Maine	13	13	(100.0)	(7.7)	(7.7)	(0)	(7.7)	(15.4)	(23.1)	(38.5)
Maryland	199	193	(97.0)	(9.8)	(9.3)	(0)	(1.6)	(10.9)	(20.2)	(48.2)
Massachusetts	199	188	(94.5)	(30.3)	(4.8)	(0)	(0)	(20.2)	(9.0)	(35.6)
Michigan	125	124	(99.2)	(56.5)	(4.0)	(0)	(0)	(0)	(0)	(39.5)
Minnesota	155	154	(99.4)	(10.4)	(3.9)	(0)	(0.6)	(11.0)	(39.0)	(35.1)
Mississippi	51	51	(100.0)	(51.0)	(0)	(0)	(0)	(17.6)	(7.8)	(23.5)
Missouri	80	75	(93.8)	(24.0)	(6.7)	(1.3)	(1.3)	(22.7)	(20.0)	(24.0)
Montana	3	3	(100.0)	(0)	(33.3)	(0)	(0)	(33.3)	(0)	(33.3)
Nebraska	20	11	(55.0)	(36.4)	(0)	(0)	(0)	(0)	(9.1)	(54.5)
Nevada	79	79	(100.0)	(17.7)	(8.9)	(1.3)	(0)	(27.8)	(7.6)	(36.7)
New Hampshire	19	19	(100.0)	(15.8)	(5.3)	(0)	(5.3)	(31.6)	(0)	(42.1)
New Jersey	266	266	(100.0)	(19.2)	(3.0)	(0)	(0.4)	(11.7)	(22.9)	(42.9)
New Mexico	37	31	(83.8)	(12.9)	(3.2)	(0)	(0)	(22.6)	(29.0)	(32.3)
New York State ²	185	180	(97.3)	(26.7)	(7.2)	(0)	(1.1)	(25.6)	(5.6)	(33.9)
New York City	598	587	(98.2)	(31.7)	(2.9)	(0)	(2.4)	(14.8)	(5.5)	(42.8)
North Carolina	201	201	(100.0)	(21.9)	(2.0)	(0.5)	(1.5)	(20.4)	(10.0)	(43.8)
North Dakota	14	14	(100.0)	(28.6)	(7.1)	(0)	(0)	(7.1)	(35.7)	(21.4)
Ohio	150	150	(100.0)	(24.7)	(2.0)	(0)	(0.7)	(14.7)	(22.0)	(36.0)
Oklahoma	49	46	(93.9)	(37.0)	(0)	(0)	(0.0)	(15.2)	(2.2)	(45.7)
Oregon	69	69	(100.0)	(18.8)	(1.4)	(0)	(4.3)	(23.2)	(13.0)	(39.1)
Pennsylvania	190	188	(98.9)	(21.3)	(1.1)	(0)	(1.1)	(22.3)	(15.4)	(38.8)
Rhode Island	12	12	(100.0)	(16.7)	(8.3)	(0)	(0)	(16.7)	(16.7)	(41.7)
South Carolina	94	93	(98.9)	(26.9)	(1.1)	(0)	(0)	(20.4)	(7.5)	(44.1)
South Dakota	14	14	(100.0)	(0)	(0)	(0)	(0)	(7.1)	(64.3)	(28.6)
Tennessee	120	120	(100.0)	(10.0)	(3.3)	(0)	(2.5)	(16.7)	(26.7)	(40.8)
Texas	1,070	1,052	(98.3)	(27.8)	(3.1)	(0.6)	(0.2)	(10.3)	(21.5)	(36.6)
Utah	22	22	(100.0)	(22.7)	(4.5)	(0)	(0)	(4.5)	(0)	(68.2)
Vermont	3	3	(100.0)	(0)	(0)	(0)	(0)	(0)	(66.7)	(33.3)
Virginia	195	195	(100.0)	(8.7)	(5.6)	(0)	(0)	(16.9)	(17.4)	(51.3)
Washington	199	185	(93.0)	(6.5)	(8.6)	(0)	(2.2)	(16.8)	(25.4)	(40.5)
West Virginia	16	16	(100.0)	(6.3)	(0)	(0)	(0)	(31.3)	(31.3)	(31.3)
Wisconsin	47	47	(100.0)	(10.6)	(0)	(0)	(0)	(25.5)	(29.8)	(34.0)
Wyoming	2	2	(100.0)	(0)	(50.0)	(0)	(0)	(0)	(0)	(50.0)
American Samoa ³	2	2	(100.0)	(50.0)	(0)	(0)	(0)	(0)	(0)	(50.0)
Fed. States of Micronesia ³	91	88	(96.7)	(63.6)	(2.3)	(0)	(1.1)	(2.3)	(15.9)	(14.8)
Guam ³	75	74	(98.7)	(9.5)	(5.4)	(0)	(0)	(8.1)	(27.0)	(50.0)
Marshall Islands ³	147	145	(98.6)	(47.6)	(0.7)	(1.4)	(0)	(5.5)	(17.9)	(26.9)
N. Mariana Islands ³	32	32	(100.0)	(0)	(3.1)	(0)	(65.6)	(3.1)	(12.5)	(15.6)
Puerto Rico ³	39	39	(100.0)	(20.5)	(2.6)	(0)	(0)	(30.8)	(35.9)	(10.3)
Republic of Palau ³	18	18	(100.0)	(22.2)	(0)	(0)	(38.9)	(0)	(16.7)	(22.2)
U.S. Virgin Islands ³	0	0	...	...	...	...	...	...	...	...

¹Occupation within past 12 months of TB diagnosis. Percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia).

²Excludes New York City.

³Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 44. Tuberculosis Cases and Percentages, by Initial Drug Regimen: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table44.htm>.

Reporting Area	Total cases	Cases in Persons Alive at Diagnosis	Cases with Information on Initial Drug Regimen ¹		Percent of Cases in Persons with Initial Drug Regimen ²	
			No.	(%)	Multi (4+) Drug Regimen ³	IRZE ⁴
UNITED STATES	9,105	8,909	8,898	(99.9)	(10.2)	(83.2)
Alabama	120	118	118	(100.0)	(12.7)	(84.7)
Alaska	53	53	53	(100.0)	(1.9)	(92.5)
Arizona	188	184	184	(100.0)	(4.3)	(93.5)
Arkansas	85	85	84	(98.8)	(7.1)	(82.1)
California	2,057	2,012	2,012	(100.0)	(8.4)	(86.0)
Colorado	84	82	82	(100.0)	(6.1)	(76.8)
Connecticut	63	61	61	(100.0)	(59.0)	(37.7)
Delaware	15	15	15	(100.0)	(53.3)	(40.0)
District of Columbia	36	34	34	(100.0)	(0.0)	(94.1)
Florida	549	541	541	(100.0)	(7.4)	(87.1)
Georgia	294	285	285	(100.0)	(56.8)	(35.4)
Hawaii	116	115	115	(100.0)	(4.3)	(88.7)
Idaho	10	10	10	(100.0)	(20.0)	(80.0)
Illinois	335	324	324	(100.0)	(7.1)	(86.4)
Indiana	100	100	100	(100.0)	(3.0)	(91.0)
Iowa	47	46	46	(100.0)	(2.2)	(97.8)
Kansas	29	28	28	(100.0)	(3.6)	(96.4)
Kentucky	65	62	62	(100.0)	(11.3)	(83.9)
Louisiana	141	139	137	(98.6)	(1.5)	(92.7)
Maine	14	14	14	(100.0)	(21.4)	(71.4)
Maryland	207	203	203	(100.0)	(11.8)	(86.7)
Massachusetts	210	209	209	(100.0)	(12.4)	(84.2)
Michigan	133	131	130	(99.2)	(3.8)	(93.1)
Minnesota	178	177	177	(100.0)	(9.0)	(76.8)
Mississippi	53	53	53	(100.0)	(3.8)	(75.5)
Missouri	87	80	80	(100.0)	(11.3)	(83.8)
Montana	3	3	3	(100.0)	(0.0)	(100.0)
Nebraska	21	20	18	(90.0)	(27.8)	(66.7)
Nevada	80	78	78	(100.0)	(2.6)	(96.2)
New Hampshire	19	19	19	(100.0)	(21.1)	(68.4)
New Jersey	284	279	276	(98.9)	(6.2)	(87.0)
New Mexico	37	34	32	(94.1)	(9.4)	(81.3)
New York State ⁵	193	191	191	(100.0)	(6.8)	(85.3)
New York City	613	599	599	(100.0)	(10.7)	(84.3)
North Carolina	213	207	207	(100.0)	(7.7)	(89.4)
North Dakota	14	14	14	(100.0)	(28.6)	(71.4)
Ohio	151	147	147	(100.0)	(15.6)	(79.6)
Oklahoma	54	53	53	(100.0)	(17.0)	(69.8)
Oregon	69	69	69	(100.0)	(7.2)	(88.4)
Pennsylvania	192	181	181	(100.0)	(12.2)	(83.4)
Rhode Island	13	12	12	(100.0)	(8.3)	(75.0)
South Carolina	101	98	98	(100.0)	(20.4)	(73.5)
South Dakota	14	12	12	(100.0)	(50.0)	(41.7)
Tennessee	128	124	124	(100.0)	(5.6)	(91.9)
Texas	1,127	1,104	1,104	(100.0)	(4.5)	(81.8)
Utah	29	29	29	(100.0)	(0.0)	(96.6)
Vermont	3	3	3	(100.0)	(0.0)	(100.0)
Virginia	204	202	202	(100.0)	(4.0)	(95.5)
Washington	207	204	204	(100.0)	(22.5)	(72.1)
West Virginia	16	15	15	(100.0)	(0.0)	(86.7)
Wisconsin	49	49	49	(100.0)	(14.3)	(83.7)
Wyoming	2	2	2	(100.0)	(0.0)	(100.0)
American Samoa ⁶	2	2	2	(100.0)	(0.0)	(50.0)
Fed. States of Micronesia ⁶	143	143	143	(100.0)	(0.7)	(99.3)
Guam ⁶	84	83	82	(98.8)	(4.9)	(93.9)
Marshall Islands ⁶	187	183	183	(100.0)	(2.7)	(96.7)
N. Mariana Islands ⁶	36	36	36	(100.0)	(80.6)	(16.7)
Puerto Rico ⁶	40	37	37	(100.0)	(8.1)	(91.9)
Republic of Palau ⁶	20	20	20	(100.0)	(0.0)	(100.0)
U.S. Virgin Islands ⁶	0	0	0	...	...	...

¹Includes persons who were alive at diagnosis and did not have an unknown drug regimen.

²Overall U.S. percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia).

³Indicates at least a four drug regimen that is not IRZE only

⁴I, isoniazid; R, rifampin; Z, pyrazinamide; E, ethambutol. Cases with other drugs prescribed in addition to these drugs are excluded.

⁵Excludes New York City.

⁶Not included in U.S. totals.

Note: Excluding cases with no information on drug regimen, 113 (1.3%) persons were not started on any drugs and 10 (0.1%) were started on one drug.

Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 45. Culture-Positive Tuberculosis Cases and Percentages with Drug-Susceptibility Results, by Resistance to Isoniazid or Multidrug Resistance: Reporting Areas, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table45.htm>.

Reporting Area	Total Culture Positive Cases	Cases with Initial Drug-Susceptibility Testing Performed ¹		Resistance ²			
				Isoniazid ¹		Isoniazid and Rifampin ¹	
		No.	(%)	No.	(%)	No.	(%)
UNITED STATES	7,126	6,531	(91.7)	608	(9.3)	123	(1.9)
Alabama	97	94	(96.9)	5	(5.3)	1	(1.1)
Alaska	45	45	(100.0)	6	(13.3)	1	(2.2)
Arizona	150	150	(100.0)	16	(10.7)	4	(2.7)
Arkansas	43	42	(97.7)	3	(7.1)	2	(4.8)
California	1,703	1,648	(96.8)	156	(9.5)	30	(1.8)
Colorado	57	57	(100.0)	5	(8.8)	0	(0.0)
Connecticut	51	50	(98.0)	5	(10.0)	1	(2.0)
Delaware	10	6	(60.0)	1	(16.7)	1	(16.7)
District of Columbia	28	28	(100.0)	3	(10.7)	1	(3.6)
Florida	445	423	(95.1)	28	(6.6)	6	(1.4)
Georgia	202	175	(86.6)	16	(9.1)	3	(1.7)
Hawaii	92	88	(95.7)	12	(13.6)	3	(3.4)
Idaho	6	6	(100.0)	0	(0.0)	0	(0.0)
Illinois	251	242	(96.4)	23	(9.5)	1	(0.4)
Indiana	67	66	(98.5)	5	(7.6)	3	(4.5)
Iowa	36	36	(100.0)	4	(11.1)	1	(2.8)
Kansas	26	25	(96.2)	3	(12.0)	0	(0.0)
Kentucky	57	57	(100.0)	4	(7.0)	2	(3.5)
Louisiana	111	97	(87.4)	7	(7.2)	2	(2.1)
Maine	14	14	(100.0)	1	(7.1)	1	(7.1)
Maryland	156	155	(99.4)	13	(8.4)	2	(1.3)
Massachusetts	161	160	(99.4)	29	(18.1)	5	(3.1)
Michigan	89	89	(100.0)	8	(9.0)	0	(0.0)
Minnesota	141	141	(100.0)	22	(15.6)	9	(6.4)
Mississippi	43	43	(100.0)	2	(4.7)	0	(0.0)
Missouri	55	50	(90.9)	4	(8.0)	1	(2.0)
Montana	3	3	(100.0)	1	(33.3)	0	(0.0)
Nebraska	18	11	(61.1)	5	(45.5)	1	(9.1)
Nevada	66	65	(98.5)	5	(7.7)	0	(0.0)
New Hampshire	14	14	(100.0)	2	(14.3)	1	(7.1)
New Jersey	231	224	(97.0)	17	(7.6)	3	(1.3)
New Mexico	32	32	(100.0)	4	(12.5)	0	(0.0)
New York State ³	142	138	(97.2)	9	(6.5)	2	(1.4)
New York City	505	494	(97.8)	55	(11.1)	15	(3.0)
North Carolina	172	171	(99.4)	6	(3.5)	2	(1.2)
North Dakota	10	8	(80.0)	2	(25.0)	0	(0.0)
Ohio	106	106	(100.0)	7	(6.6)	2	(1.9)
Oklahoma	39	39	(100.0)	8	(20.5)	3	(7.7)
Oregon	48	47	(97.9)	7	(14.9)	0	(0.0)
Pennsylvania	153	139	(90.8)	8	(5.8)	0	(0.0)
Rhode Island	8	8	(100.0)	0	(0.0)	0	(0.0)
South Carolina	83	80	(96.4)	7	(8.8)	1	(1.3)
South Dakota	12	12	(100.0)	1	(8.3)	0	(0.0)
Tennessee	99	99	(100.0)	8	(8.1)	0	(0.0)
Texas	851	469	(55.1)	32	(6.8)	6	(1.3)
Utah	23	23	(100.0)	1	(4.3)	0	(0.0)
Vermont	3	3	(100.0)	0	(0.0)	0	(0.0)
Virginia	149	149	(100.0)	14	(9.4)	4	(2.7)
Washington	170	157	(92.4)	22	(14.0)	3	(1.9)
West Virginia	13	13	(100.0)	1	(7.7)	0	(0.0)
Wisconsin	40	40	(100.0)	5	(12.5)	0	(0.0)
Wyoming	0	0	...	0	...	0	...
American Samoa ⁴	1	0	(0.0)	0	...	0	...
Fed. States of Micronesia ⁴	44	43	(97.7)	0	(0.0)	0	(0.0)
Guam ⁴	57	52	(91.2)	3	(5.8)	1	(1.9)
Marshall Islands ⁴	72	71	(98.6)	3	(4.2)	0	(0.0)
N. Mariana Islands ⁴	20	11	(55.0)	3	(27.3)	0	(0.0)
Puerto Rico ⁴	30	30	(100.0)	0	(0.0)	0	(0.0)
Republic of Palau ⁴	18	17	(94.4)	0	(0.0)	0	(0.0)
U.S. Virgin Islands ⁴	0	0	...	0	...	0	...

¹Patients tested to at least isoniazid and rifampin.

²Isolates may be resistant to other drugs. Overall U.S. percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia).

³Excludes New York City.

⁴Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 46. Tuberculosis Cases and Percentages, by HIV Status¹: Reporting Areas, 2017For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table46.htm>.

Reporting Area	Total cases	Cases with Information on HIV Status ²		Cases in Persons with HIV-Positive Results	
		No.	(%)	No.	(%)
UNITED STATES	8,934	7,945	(88.9)	439	(5.5)
Alabama	118	114	(96.6)	4	(3.5)
Alaska	53	46	(86.8)	1	(2.2)
Arizona	184	161	(87.5)	10	(6.2)
Arkansas	85	83	(97.6)	1	(1.2)
California	2,020	1,799	(89.1)	68	(3.8)
Colorado	82	79	(96.3)	1	(1.3)
Connecticut	61	52	(85.2)	2	(3.8)
Delaware	15	14	(93.3)	2	(14.3)
District of Columbia	34	34	(100.0)	5	(14.7)
Florida	541	517	(95.6)	57	(11.0)
Georgia	285	273	(95.8)	23	(8.4)
Hawaii	115	113	(98.3)	0	(0)
Idaho	10	9	(90.0)	1	(11.1)
Illinois	325	293	(90.2)	13	(4.4)
Indiana	100	91	(91.0)	6	(6.6)
Iowa	46	43	(93.5)	3	(7.0)
Kansas	28	28	(100.0)	0	(0)
Kentucky	62	61	(98.4)	1	(1.6)
Louisiana	139	122	(87.8)	3	(2.5)
Maine	14	12	(85.7)	2	(16.7)
Maryland	203	187	(92.1)	23	(12.3)
Massachusetts	210	69	(32.9)	13	(18.8)
Michigan	131	115	(87.8)	4	(3.5)
Minnesota	177	173	(97.7)	7	(4.0)
Mississippi	53	53	(100.0)	8	(15.1)
Missouri	86	74	(86.0)	7	(9.5)
Montana	3	2	(66.7)	0	(0)
Nebraska	20	19	(95.0)	1	(5.3)
Nevada	78	72	(92.3)	5	(6.9)
New Hampshire	19	17	(89.5)	0	(0)
New Jersey	279	222	(79.6)	14	(6.3)
New Mexico	34	32	(94.1)	1	(3.1)
New York State ³	191	177	(92.7)	6	(3.4)
New York City	599	511	(85.3)	29	(5.7)
North Carolina	207	202	(97.6)	4	(2.0)
North Dakota	14	14	(100.0)	0	(0)
Ohio	147	141	(95.9)	2	(1.4)
Oklahoma	53	52	(98.1)	0	(0)
Oregon	69	69	(100.0)	5	(7.2)
Pennsylvania	181	165	(91.2)	10	(6.1)
Rhode Island	12	11	(91.7)	1	(9.1)
South Carolina	98	92	(93.9)	1	(1.1)
South Dakota	12	12	(100.0)	1	(8.3)
Tennessee	124	121	(97.6)	9	(7.4)
Texas	1,112	945	(85.0)	72	(7.6)
Utah	29	29	(100.0)	3	(10.3)
Vermont	3	3	(100.0)	0	(0)
Virginia	202	195	(96.5)	3	(1.5)
Washington	205	175	(85.4)	6	(3.4)
West Virginia	15	14	(93.3)	0	(0)
Wisconsin	49	36	(73.5)	1	(2.8)
Wyoming	2	2	(100.0)	0	(0)
American Samoa ⁴	2	1	(50.0)	0	(0)
Fed. States of Micronesia ⁴	143	118	(82.5)	0	(0)
Guam ⁴	83	68	(81.9)	1	(1.5)
Marshall Islands ⁴	183	177	(96.7)	0	(0)
N. Mariana Islands ⁴	36	35	(97.2)	0	(0)
Puerto Rico ⁴	37	34	(91.9)	10	(29.4)
Republic of Palau ⁴	20	20	(100.0)	0	(0.0)
U.S. Virgin Islands ⁴	0	0	...	0	...

¹Persons not dead at diagnosis.²Includes only those cases in persons with negative, positive, or indeterminate HIV test results.³Excludes New York City.⁴Not included in U.S. totals.**Note:** Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0. HIV, human immunodeficiency virus.

See Technical Notes.

Table 47. Tuberculosis Genotyping Surveillance Coverage¹: Reporting Areas, 2017For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table47.htm>.

Reporting Area	Total cases	Culture-Positive Cases	Genotyped Cases	Genotype Surveillance Coverage ²
		No.	No.	(%)
UNITED STATES	9,105	7,111	6,851	(96.3)
Alabama	120	97	90	(92.8)
Alaska	53	45	45	(100.0)
Arizona	188	150	150	(100.0)
Arkansas	85	43	43	(100.0)
California	2,057	1,703	1,631	(95.8)
Colorado	84	57	57	(100.0)
Connecticut	36	28	27	(96.4)
Delaware	63	51	48	(94.1)
District of Columbia	15	10	7	(70.0)
Florida	549	445	444	(99.8)
Georgia	294	199	196	(98.5)
Hawaii	116	92	91	(98.9)
Idaho	10	6	6	(100.0)
Illinois	335	251	230	(91.6)
Indiana	100	67	67	(100.0)
Iowa	47	36	36	(100.0)
Kansas	29	26	26	(100.0)
Kentucky	65	57	56	(98.2)
Louisiana	141	111	70	(63.1)
Maine	14	14	14	(100.0)
Maryland	207	156	155	(99.4)
Massachusetts	210	160	159	(99.4)
Michigan	133	89	89	(100.0)
Minnesota	178	141	141	(100.0)
Mississippi	53	43	43	(100.0)
Missouri	87	53	50	(94.3)
Montana	3	3	3	(100.0)
Nebraska	21	18	15	(83.3)
Nevada	80	66	65	(98.5)
New Hampshire	19	14	14	(100.0)
New Jersey	284	231	228	(98.7)
New Mexico	37	32	31	(96.9)
New York State ³	806	645	621	(96.3)
North Carolina	213	172	169	(98.3)
North Dakota	14	8	8	(100.0)
Ohio	151	106	104	(98.1)
Oklahoma	54	39	37	(94.9)
Oregon	69	48	48	(100.0)
Pennsylvania	192	153	141	(92.2)
Rhode Island	13	8	8	(100.0)
South Carolina	101	83	69	(83.1)
South Dakota	14	11	11	(100.0)
Tennessee	128	99	99	(100.0)
Texas	1,127	849	822	(96.8)
Utah	29	23	23	(100.0)
Vermont	3	3	3	(100.0)
Virginia	204	149	148	(99.3)
Washington	207	168	162	(96.4)
West Virginia	16	13	12	(92.3)
Wisconsin	49	40	39	(97.5)
Wyoming	2	0	0	...
American Samoa ⁴	2	1	0	0
Fed. States of Micronesia ⁴	143	44	42	(95.5)
Guam ⁴	84	57	55	(96.5)
Marshall Islands ⁴	187	72	57	(79.2)
N. Mariana Islands ⁴	36	20	18	(90.0)
Puerto Rico ⁴	40	30	23	(76.7)
Republic of Palau ⁴	20	18	18	(100.0)
U.S. Virgin Islands ⁴	0	0	0	...

¹Genotype surveillance coverage is defined as the percentage of all culture positive tuberculosis (TB) cases for which there was a genotyped isolate.²National TB Performance Indicator goal for national TB genotyping surveillance coverage is 94.0%.³Includes New York City⁴Not included in U.S. totals.**Note:** Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

See Technical Notes

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Morbidity Tables, Reporting Areas, 2015

Table 48. Tuberculosis Cases and Percentages, by Directly Observed Therapy (DOT): Reporting Areas, 2015¹

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table48.htm>.

Reporting Area	Total cases	Cases with Initial Drug Regimen Prescribed ²	Cases with Information on Directly Observed Therapy		Percentage of Cases by Directly Observed Therapy ³	
			No.	(%)	DOT Only	Both DOT and Self-Administered
UNITED STATES	9,547	9,288	9,174	(98.8)	(65.1)	(28.5)
Alabama	119	116	115	(99.1)	(59.1)	(40.9)
Alaska	68	67	67	(100.0)	(98.5)	(1.5)
Arizona	198	194	194	(100.0)	(89.2)	(8.8)
Arkansas	90	88	88	(100.0)	(36.4)	(62.5)
California	2,131	2,073	2,033	(98.1)	(53.4)	(38.5)
Colorado	73	72	72	(100.0)	(69.4)	(23.6)
Connecticut	70	70	70	(100.0)	(20.0)	(61.4)
Delaware	22	21	20	(95.2)	(45.0)	(55.0)
District of Columbia	33	30	30	(100.0)	(86.7)	(0.0)
Florida	602	583	576	(98.8)	(20.8)	(78.6)
Georgia	320	314	313	(99.7)	(90.1)	(7.3)
Hawaii	127	126	126	(100.0)	(92.1)	(2.4)
Idaho	11	11	10	(90.9)	(50.0)	(20.0)
Illinois	343	335	333	(99.4)	(49.8)	(38.1)
Indiana	116	114	114	(100.0)	(89.5)	(9.6)
Iowa	38	38	38	(100.0)	(55.3)	(39.5)
Kansas	36	35	34	(97.1)	(94.1)	(5.9)
Kentucky	67	67	67	(100.0)	(94.0)	(6.0)
Louisiana	119	115	91	(79.1)	(56.0)	(29.7)
Maine	18	17	17	(100.0)	(47.1)	(41.2)
Maryland	176	171	171	(100.0)	(78.9)	(21.1)
Massachusetts	192	187	186	(99.5)	(72.6)	(18.3)
Michigan	131	130	130	(100.0)	(62.3)	(37.7)
Minnesota	150	146	146	(100.0)	(42.5)	(56.8)
Mississippi	73	70	69	(98.6)	(66.7)	(33.3)
Missouri	92	90	89	(98.9)	(21.3)	(76.4)
Montana	9	8	8	(100.0)	(100.0)	(0.0)
Nebraska	33	32	28	(87.5)	(10.7)	(75.0)
Nevada	85	82	81	(98.8)	(76.5)	(19.8)
New Hampshire	13	12	12	(100.0)	(41.7)	(58.3)
New Jersey	326	314	303	(96.5)	(51.5)	(29.4)
New Mexico	47	41	41	(100.0)	(90.2)	(9.8)
New York State ⁴	188	184	183	(99.5)	(22.4)	(73.8)
New York City	575	564	562	(99.6)	(59.6)	(13.9)
North Carolina	199	192	192	(100.0)	(96.4)	(3.1)
North Dakota	9	8	8	(100.0)	(25.0)	(75.0)
Ohio	143	139	139	(100.0)	(71.9)	(15.8)
Oklahoma	67	62	62	(100.0)	(6.5)	(93.5)
Oregon	76	75	75	(100.0)	(89.3)	(6.7)
Pennsylvania	200	196	196	(100.0)	(69.4)	(24.5)
Rhode Island	30	28	28	(100.0)	(10.7)	(89.3)
South Carolina	104	100	100	(100.0)	(80.0)	(18.0)
South Dakota	17	15	15	(100.0)	(60.0)	(26.7)
Tennessee	131	127	127	(100.0)	(92.1)	(7.9)
Texas	1,334	1,303	1,301	(99.8)	(94.7)	(4.9)
Utah	37	37	37	(100.0)	(100.0)	(0.0)
Vermont	7	7	7	(100.0)	(57.1)	(28.6)
Virginia	212	208	208	(100.0)	(93.3)	(6.3)
Washington	207	196	185	(94.4)	(64.9)	(18.4)
West Virginia	10	8	7	(87.5)	(100.0)	(0.0)
Wisconsin	69	66	66	(100.0)	(87.9)	(12.1)
Wyoming	4	4	4	(100.0)	(25.0)	(50.0)
American Samoa ⁵	4	4	...	...	...	...
Fed. States of Micronesia ⁵	103	102	102	(100.0)	(92.2)	(7.8)
Guam ⁵	76	73	47	(64.4)	(91.5)	(8.5)
Marshall Islands ⁵	136	133	131	(98.5)	(87.8)	(11.5)
N. Mariana Islands ⁵	27	27	26	(96.3)	(80.8)	(19.2)
Puerto Rico ⁵	52	48	47	(97.9)	(72.3)	(0.0)
Republic of Palau ⁵	14	14	14	(100.0)	(50.0)	(50.0)
U.S. Virgin Islands ⁵	...	...	...	...	...	...

¹Most recent year for which data are available.

²Includes persons alive at diagnosis with an initial drug regimen of one or more drugs prescribed.

³Percentage for U.S. based on 52 reporting areas (50 states, New York City, and the District of Columbia).

⁴Excludes New York City.

⁵Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 49. Tuberculosis Cases and Percentages, by Reason Therapy Was Stopped: Reporting Areas, 2015¹

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table49.htm>.

Reporting Area	Cases with Initial Drug Regimen Prescribed ²	Completed Therapy		Did not complete therapy									
		No.	(%)	Adverse event		Lost		Refused		Died ³		Unknown ⁴	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
UNITED STATES	9,288	8,133	(87.6)	17	(0.2)	108	(1.2)	71	(0.8)	572	(6.2)	387	(4.2)
Alabama	116	100	(86.2)	0	(0.0)	1	(0.9)	2	(1.7)	12	(10.3)	1	(0.9)
Alaska	67	64	(95.5)	0	(0.0)	0	(0.0)	0	(0.0)	3	(4.5)	0	(0.0)
Arizona	194	163	(84.0)	0	(0.0)	4	(2.1)	1	(0.5)	13	(6.7)	13	(6.7)
Arkansas	88	80	(90.9)	0	(0.0)	0	(0.0)	1	(1.1)	5	(5.7)	2	(2.3)
California	2,073	1,786	(86.2)	5	(0.2)	19	(0.9)	14	(0.7)	147	(7.1)	102	(4.9)
Colorado	72	69	(95.8)	0	(0.0)	1	(1.4)	1	(1.4)	0	(0.0)	1	(1.4)
Connecticut	70	62	(88.6)	0	(0.0)	0	(0.0)	0	(0.0)	6	(8.6)	2	(2.9)
Delaware	21	21	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
District of Columbia	30	25	(83.3)	0	(0.0)	1	(3.3)	0	(0.0)	3	(10.0)	1	(3.3)
Florida	583	522	(89.5)	0	(0.0)	4	(0.7)	1	(0.2)	41	(7.0)	15	(2.6)
Georgia	314	286	(91.1)	0	(0.0)	6	(1.9)	0	(0.0)	19	(6.1)	3	(1.0)
Hawaii	126	118	(93.7)	0	(0.0)	0	(0.0)	1	(0.8)	6	(4.8)	1	(0.8)
Idaho	11	10	(90.9)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(9.1)
Illinois	335	309	(92.2)	0	(0.0)	2	(0.6)	1	(0.3)	18	(5.4)	5	(1.5)
Indiana	114	102	(89.5)	0	(0.0)	2	(1.8)	2	(1.8)	6	(5.3)	2	(1.8)
Iowa	38	35	(92.1)	2	(5.3)	0	(0.0)	1	(2.6)	0	(0.0)	0	(0.0)
Kansas	35	33	(94.3)	0	(0.0)	0	(0.0)	1	(2.9)	1	(2.9)	0	(0.0)
Kentucky	67	61	(91.0)	0	(0.0)	0	(0.0)	0	(0.0)	5	(7.5)	1	(1.5)
Louisiana	115	81	(70.4)	0	(0.0)	4	(3.5)	1	(0.9)	4	(3.5)	25	(21.7)
Maine	17	16	(94.1)	0	(0.0)	0	(0.0)	0	(0.0)	1	(5.9)	0	(0.0)
Maryland	171	155	(90.6)	2	(1.2)	2	(1.2)	1	(0.6)	8	(4.7)	3	(1.8)
Massachusetts	187	165	(88.2)	0	(0.0)	0	(0.0)	1	(0.5)	6	(3.2)	15	(8.0)
Michigan	130	121	(93.1)	0	(0.0)	1	(0.8)	1	(0.8)	6	(4.6)	1	(0.8)
Minnesota	146	136	(93.2)	1	(0.7)	2	(1.4)	0	(0.0)	2	(1.4)	5	(3.4)
Mississippi	70	57	(81.4)	0	(0.0)	0	(0.0)	0	(0.0)	9	(12.9)	4	(5.7)
Missouri	90	72	(80.0)	2	(2.2)	0	(0.0)	3	(3.3)	4	(4.4)	9	(10.0)
Montana	8	8	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Nebraska	32	10	(31.3)	1	(3.1)	0	(0.0)	0	(0.0)	0	(0.0)	21	(65.6)
Nevada	82	75	(91.5)	0	(0.0)	1	(1.2)	0	(0.0)	5	(6.1)	1	(1.2)
New Hampshire	12	10	(83.3)	0	(0.0)	0	(0.0)	0	(0.0)	2	(16.7)	0	(0.0)
New Jersey	314	267	(85.0)	0	(0.0)	11	(3.5)	3	(1.0)	20	(6.4)	13	(4.1)
New Mexico	41	34	(82.9)	0	(0.0)	0	(0.0)	1	(2.4)	5	(12.2)	1	(2.4)
New York State ⁵	184	161	(87.5)	0	(0.0)	0	(0.0)	2	(1.1)	14	(7.6)	7	(3.8)
New York City	564	516	(91.5)	0	(0.0)	4	(0.7)	6	(1.1)	28	(5.0)	10	(1.8)
North Carolina	192	177	(92.2)	0	(0.0)	2	(1.0)	0	(0.0)	12	(6.3)	1	(0.5)
North Dakota	8	6	(75.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(12.5)	1	(12.5)
Ohio	139	116	(83.5)	1	(0.7)	1	(0.7)	5	(3.6)	10	(7.2)	6	(4.3)
Oklahoma	62	57	(91.9)	0	(0.0)	0	(0.0)	1	(1.6)	3	(4.8)	1	(1.6)
Oregon	75	68	(90.7)	0	(0.0)	1	(1.3)	2	(2.7)	3	(4.0)	1	(1.3)
Pennsylvania	196	165	(84.2)	0	(0.0)	4	(2.0)	2	(1.0)	16	(8.2)	9	(4.6)
Rhode Island	28	26	(92.9)	0	(0.0)	0	(0.0)	0	(0.0)	1	(3.6)	1	(3.6)
South Carolina	100	86	(86.0)	1	(1.0)	2	(2.0)	0	(0.0)	8	(8.0)	3	(3.0)
South Dakota	15	11	(73.3)	0	(0.0)	1	(6.7)	0	(0.0)	0	(0.0)	3	(20.0)
Tennessee	127	111	(87.4)	1	(0.8)	3	(2.4)	1	(0.8)	8	(6.3)	3	(2.4)
Texas	1,303	1,122	(86.1)	0	(0.0)	25	(1.9)	12	(0.9)	76	(5.8)	68	(5.2)
Utah	37	35	(94.6)	0	(0.0)	0	(0.0)	1	(2.7)	1	(2.7)	0	(0.0)
Vermont	7	7	(100.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Virginia	208	189	(90.9)	0	(0.0)	2	(1.0)	2	(1.0)	12	(5.8)	3	(1.4)
Washington	196	160	(81.6)	0	(0.0)	2	(1.0)	0	(0.0)	14	(7.1)	20	(10.2)
West Virginia	8	6	(75.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(12.5)	1	(12.5)
Wisconsin	66	59	(89.4)	1	(1.5)	0	(0.0)	0	(0.0)	6	(9.1)	0	(0.0)
Wyoming	4	2	(50.0)	0	(0.0)	0	(0.0)	0	(0.0)	1	(25.0)	1	(25.0)
American Samoa ⁶	4	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	4	(100.0)
Fed. States of Micronesia ⁶	102	86	(84.3)	0	(0.0)	0	(0.0)	4	(3.9)	6	(5.9)	6	(5.9)
Guam ⁶	73	44	(60.3)	0	(0.0)	0	(0.0)	0	(0.0)	3	(4.1)	26	(35.6)
Marshall Islands ⁶	133	110	(82.7)	0	(0.0)	4	(3.0)	3	(2.3)	13	(9.8)	3	(2.3)
N. Mariana Islands ⁶	27	23	(85.2)	0	(0.0)	0	(0.0)	1	(3.7)	1	(3.7)	2	(7.4)
Puerto Rico ⁶	48	35	(72.9)	0	(0.0)	2	(4.2)	3	(6.3)	7	(14.6)	1	(2.1)
Republic of Palau ⁶	14	12	(85.7)	0	(0.0)	1	(7.1)	0	(0.0)	1	(7.1)	0	(0.0)
U.S. Virgin Islands ⁶	0	0	...	0	...	0	...	0	...	0	...	0	...

¹Most recent year for which data are available.

²Number of cases in persons alive at diagnosis, with an initial regimen of one or more drugs prescribed. Percentage for U.S. based on 52 reporting areas (50 states, New York City, and the District of Columbia).

³Died = died of any cause.

⁴Includes cases reported as other, missing, and unknown.

⁵Excludes New York City.

⁶Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 50. Reason Therapy Was Extended Beyond 12 Months: Reporting Areas, 2015¹

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table50.htm>.

Reporting Area	Total Cases with Therapy Extended ^{2,3}	Reasons Therapy was Extended											
		Rifampin Resistance		Adverse Event		Nonadherence		Treatment Failure		Clinically Indicated		Other	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
UNITED STATES	829	55	(6.6)	155	(18.7)	94	(11.3)	9	(1.1)	325	(39.2)	302	(36.4)
Alabama	15	0	(0)	0	(0)	2	(13.3)	1	(6.7)	11	(73.3)	2	(13.3)
Alaska	8	1	(12.5)	3	(37.5)	1	(12.5)	0	(0)	1	(12.5)	3	(37.5)
Arizona	13	3	(23.1)	2	(15.4)	3	(23.1)	0	(0)	2	(15.4)	4	(30.8)
Arkansas	10	0	(0)	1	(10.0)	7	(70.0)	0	(0)	1	(10.0)	1	(10.0)
California	212	17	(8.0)	57	(26.9)	17	(8.0)	2	(0.9)	79	(37.3)	70	(33.0)
Colorado	4	0	(0.0)	1	(25.0)	0	(0)	0	(0)	2	(50.0)	1	(25.0)
Connecticut	5	1	(20.0)	1	(20.0)	0	(0)	0	(0)	3	(60.0)	4	(80.0)
Delaware	4	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	4	(100.0)
District of Columbia	5	0	(0)	1	(20.0)	2	(40.0)	0	(0)	3	(60.0)	0	(0)
Florida	30	3	(10.0)	4	(13.3)	3	(10.0)	0	(0)	17	(56.7)	6	(20.0)
Georgia	31	2	(6.5)	5	(16.1)	3	(9.7)	0	(0)	11	(35.5)	16	(51.6)
Hawaii	5	0	(0)	2	(40.0)	0	(0)	0	(0)	1	(20.0)	2	(40.0)
Idaho	1	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)
Illinois	20	1	(5.0)	4	(20.0)	0	(0)	0	(0)	7	(35.0)	9	(45.0)
Indiana	4	1	(25.0)	0	(0)	1	(25.0)	0	(0)	1	(25.0)	1	(25.0)
Iowa	4	0	(0)	1	(25.0)	0	(0)	0	(0)	3	(75.0)	0	(0)
Kansas	4	0	(0)	0	(0)	0	(0)	0	(0)	1	(25.0)	3	(75.0)
Kentucky	10	0	(0)	1	(10.0)	1	(10.0)	0	(0)	5	(50.0)	7	(70.0)
Louisiana	9	0	(0)	3	(33.3)	1	(11.1)	0	(0)	5	(55.6)	0	(0)
Maine	1	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Maryland	23	0	(0)	2	(8.7)	1	(4.3)	0	(0)	12	(52.2)	9	(39.1)
Massachusetts	29	0	(0)	1	(3.4)	0	(0)	0	(0)	15	(51.7)	13	(44.8)
Michigan	5	0	(0)	2	(40.0)	0	(0)	0	(0)	2	(40.0)	3	(60.0)
Minnesota	10	1	(10.0)	4	(40.0)	1	(10.0)	0	(0)	3	(30.0)	2	(20.0)
Mississippi	5	0	(0)	1	(20.0)	0	(0)	0	(0)	2	(40.0)	3	(60.0)
Missouri	5	0	(0)	0	(0)	0	(0)	0	(0)	1	(20.0)	4	(80.0)
Montana	1	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	1	(100.0)
Nebraska	0	0	...	0	...	0	...	0	...	0	...	0	...
Nevada	6	0	(0)	1	(16.7)	0	(0)	0	(0)	2	(33.3)	3	(50.0)
New Hampshire	1	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0.0)
New Jersey	31	3	(9.7)	9	(29.0)	2	(6.5)	0	(0)	4	(12.9)	18	(58.1)
New Mexico	1	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)
New York State ⁴	7	1	(14.3)	1	(14.3)	0	(0)	0	(0)	3	(42.9)	4	(57.1)
New York City	35	2	(5.7)	5	(14.3)	4	(11.4)	2	(5.7)	6	(17.1)	16	(45.7)
North Carolina	19	5	(26.3)	7	(36.8)	4	(21.1)	0	(0)	1	(5.3)	5	(26.3)
North Dakota	0	0	...	0	...	0	...	0	...	0	...	0	...
Ohio	14	1	(7.1)	1	(7.1)	0	(0)	1	(7.1)	7	(50.0)	4	(28.6)
Oklahoma	5	0	(0)	2	(40.0)	2	(40.0)	0	(0)	0	(0)	1	(20.0)
Oregon	6	0	(0)	0	(0)	2	(33.3)	0	(0)	4	(66.7)	0	(0)
Pennsylvania	32	2	(6.3)	19	(59.4)	5	(15.6)	2	(6.3)	15	(46.9)	8	(25.0)
Rhode Island	2	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(100.0)
South Carolina	7	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	7	(100.0)
South Dakota	4	0	(0)	1	(25.0)	0	(0)	0	(0)	1	(25.0)	2	(50.0)
Tennessee	5	0	(0)	1	(20.0)	0	(0)	0	(0)	2	(40.0)	4	(80.0)
Texas	136	3	(2.2)	2	(1.5)	25	(18.4)	1	(0.7)	77	(56.6)	43	(31.6)
Utah	3	2	(66.7)	0	(0)	0	(0)	0	(0)	1	(33.3)	0	(0)
Vermont	0	0	...	0	...	0	...	0	...	0	...	0	...
Virginia	15	1	(6.7)	3	(20.0)	2	(13.3)	0	(0)	6	(40.0)	5	(33.3)
Washington	13	1	(7.7)	0	(0)	4	(30.8)	0	(0)	2	(15.4)	6	(46.2)
West Virginia	1	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)
Wisconsin	12	1	(8.3)	6	(50.0)	1	(8.3)	0	(0)	5	(41.7)	3	(25.0)
Wyoming	1	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)
American Samoa ⁵	0	0	...	0	...	0	...	0	...	0	...	0	...
Fed. States of Micronesia ⁵	3	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	3	(100.0)
Guam ⁵	2	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(100.0)
Marshall Islands ⁵	7	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	7	(100.0)
N. Mariana Islands ⁵	4	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	4	(100.0)
Puerto Rico ⁵	7	1	(14.3)	1	(14.3)	1	(14.3)	0	(0)	3	(42.9)	1	(14.3)
Republic of Palau ⁵	2	0	(0)	0	(0)	0	(0)	0	(0)	1	(50.0)	1	(50.0)
U.S. Virgin Islands ⁵	0	0	...	0	...	0	...	0	...	0	...	0	...

¹Most recent year for which data are available.

²Among patients who were alive at diagnosis, started on treatment and had a duration of treatment >365 days.

³Patient may have more than one reason therapy was extended beyond 12 months (total reasons therapy extended may be greater than total patients with therapy extended).

⁴Excludes New York City.

⁵Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 51. Tuberculosis Cases and Percentages, by Completion of Tuberculosis Therapy (COT): Reporting Areas, 2015¹

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table51.htm>.

Reporting Area	Total cases	Therapy ≤1 year indicated ^{2,3,4}		Therapy >1 year indicated ^{3,5}	
		No.	COT(%)	No.	COT(%)
UNITED STATES	9,547	7,860	(89.5)	(95.8)	(90.2)
Alabama	119	98	(85.7)	(95.9)	(100.0)
Alaska	68	59	(93.2)	(100.0)	(100.0)
Arizona	198	151	(92.1)	(98.0)	(88.9)
Arkansas	90	79	(84.8)	(96.2)	(100.0)
California	2,131	1,764	(88.2)	(95.4)	(87.6)
Colorado	73	61	(95.1)	(96.7)	(100.0)
Connecticut	70	56	(94.6)	(100.0)	(100.0)
Delaware	22	18	(88.9)	(100.0)	(100.0)
District of Columbia	33	24	(87.5)	(95.8)	(100.0)
Florida	602	496	(95.6)	(98.4)	(88.2)
Georgia	320	270	(90.4)	(97.8)	(100.0)
Hawaii	127	113	(95.6)	(99.1)	(100.0)
Idaho	11	9	(100.0)	(100.0)	(100.0)
Illinois	343	289	(94.5)	(98.6)	(100.0)
Indiana	116	101	(94.1)	(96.0)	(100.0)
Iowa	38	34	(85.3)	(91.2)	(100.0)
Kansas	36	32	(93.8)	(96.9)	(66.7)
Kentucky	67	53	(94.3)	(100.0)	(100.0)
Louisiana	119	107	(65.4)	(72.9)	(75.0)
Maine	18	15	(100.0)	(100.0)	(100.0)
Maryland	176	141	(90.8)	(98.6)	(92.9)
Massachusetts	192	151	(88.7)	(97.4)	(93.3)
Michigan	131	112	(95.5)	(99.1)	(100.0)
Minnesota	150	125	(95.2)	(97.6)	(93.3)
Mississippi	73	55	(89.1)	(96.4)	(100.0)
Missouri	92	77	(81.8)	(88.3)	(80.0)
Montana	9	7	(100.0)	(100.0)	(100.0)
Nebraska	33	27	(37.0)	(37.0)	(0.0)
Nevada	85	71	(94.4)	(98.6)	(100.0)
New Hampshire	13	7	(100.0)	(100.0)	(100.0)
New Jersey	326	254	(90.9)	(97.2)	(85.0)
New Mexico	47	29	(93.1)	(96.6)	(100.0)
New York State ⁶	188	149	(94.0)	(97.3)	(83.3)
New York City	575	489	(94.1)	(98.0)	(97.1)
North Carolina	199	162	(92.6)	(99.4)	(100.0)
North Dakota	9	7	(85.7)	(85.7)	...
Ohio	143	116	(83.6)	(93.1)	(100.0)
Oklahoma	67	59	(88.1)	(96.6)	...
Oregon	76	64	(89.1)	(95.3)	(100.0)
Pennsylvania	200	165	(80.6)	(93.3)	(100.0)
Rhode Island	30	23	(100.0)	(100.0)	(100.0)
South Carolina	104	86	(91.9)	(94.2)	(100.0)
South Dakota	17	14	(50.0)	(78.6)	...
Tennessee	131	106	(95.3)	(96.2)	(90.0)
Texas	1,334	1,089	(87.5)	(94.5)	(82.9)
Utah	37	31	(93.5)	(96.8)	(100.0)
Vermont	7	7	(100.0)	(100.0)	...
Virginia	212	180	(92.2)	(97.2)	(100.0)
Washington	207	162	(74.1)	(90.1)	(76.9)
West Virginia	10	6	(83.3)	(100.0)	(0.0)
Wisconsin	69	58	(86.2)	(100.0)	(50.0)
Wyoming	4	2	(100.0)	(100.0)	...
American Samoa ⁷	4	4	(0.0)	(0.0)	...
Fed. States of Micronesia ⁷	103	93	(90.3)	(91.4)	(50.0)
Guam ⁷	76	66	(60.6)	(62.1)	(66.7)
Marshall Islands ⁷	136	118	(87.3)	(91.5)	(100.0)
N. Mariana Islands ⁷	27	25	(80.0)	(88.0)	(100.0)
Puerto Rico ⁷	52	38	(73.7)	(86.8)	(100.0)
Republic of Palau ⁷	14	11	(90.9)	(90.9)	(100.0)
U.S. Virgin Islands ⁷	0	...	...	...	...

¹Most recent year for which data are available.

²Initial isolate susceptible to rifampin (n = 5,915) or susceptibility unknown (n = 74); culture negative (n = 1,566); culture status unknown (n = 305).

³Number of cases in persons alive at diagnosis, with an initial regimen of one or more drugs prescribed. Percentage for U.S. based on 52 reporting areas (50 states, New York City, and the District of Columbia).

⁴Therapy ≤1 year indicated in persons alive at diagnosis with an initial regimen of one or more drugs prescribed, who did not die within one year of initiating therapy. Excludes persons with initial isolate rifampin resistant, or patient with bone and joint disease, meningeal disease or disease of the central nervous system, or pediatric patient (age <15) 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.

⁵Initial isolate rifampin resistant, or patient with meningeal disease or bone and joint disease, or disease of the central nervous system, or pediatric patient (age <15) with miliary disease or positive blood culture or a positive nucleic acid amplification test on a blood specimen, and those who did not move out of the country or die during treatment.

⁶Excludes New York City.

⁷Not included in U.S. totals.

Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0. See Technical Notes for description of completion of therapy calculation.

Table 52. Tuberculosis Cases and Percentages Among Persons Completing Therapy for Whom Therapy Was Indicated for ≤1 Year: Reporting Areas, 2011–2015¹

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table52.htm>.

Reporting Area	Year									
	2011		2012		2013		2014		2015	
	No. ²	(%) ³	No. ²	(%) ³	No. ²	(%) ³	No. ²	(%) ³	No. ²	(%) ³
UNITED STATES	8,485	(89.7)	8,105	(90.1)	7,779	(89.9)	7,714	(90.2)	7,860	(89.5)
Alabama	138	(93.5)	119	(90.8)	94	(95.7)	112	(93.8)	98	(85.7)
Alaska	54	(88.9)	60	(93.3)	67	(92.5)	54	(94.4)	59	(93.2)
Arizona	166	(87.3)	139	(94.2)	131	(86.3)	127	(88.2)	151	(92.1)
Arkansas	67	(83.6)	58	(89.7)	61	(72.1)	80	(75.0)	79	(84.8)
California	1,873	(87.7)	1,767	(89.0)	1,755	(88.6)	1,745	(88.3)	1,764	(88.2)
Colorado	58	(96.6)	46	(95.7)	57	(96.5)	51	(96.1)	61	(95.1)
Connecticut	68	(94.1)	60	(95.0)	49	(85.7)	51	(98.0)	56	(94.6)
Delaware	17	(94.1)	21	(81.0)	17	(70.6)	20	(85.0)	18	(88.9)
District of Columbia	49	(79.6)	27	(96.3)	27	(85.2)	27	(92.6)	24	(87.5)
Florida	607	(92.9)	562	(91.5)	547	(94.7)	506	(95.3)	496	(95.6)
Georgia	277	(89.5)	292	(91.1)	290	(88.6)	282	(89.4)	270	(90.4)
Hawaii	110	(90.0)	91	(92.3)	102	(90.2)	121	(98.3)	113	(95.6)
Idaho	11	(81.8)	13	(84.6)	9	(88.9)	8	(75.0)	9	(100.0)
Illinois	279	(91.8)	289	(91.3)	267	(89.5)	262	(89.7)	289	(94.5)
Indiana	87	(89.7)	85	(92.9)	77	(96.1)	91	(92.3)	101	(94.1)
Iowa	32	(87.5)	36	(80.6)	40	(87.5)	43	(90.7)	34	(85.3)
Kansas	27	(88.9)	31	(93.5)	30	(100.0)	35	(94.3)	32	(93.8)
Kentucky	56	(82.1)	68	(94.1)	47	(91.5)	62	(95.2)	53	(94.3)
Louisiana	140	(84.3)	119	(81.5)	120	(78.3)	103	(79.6)	107	(65.4)
Maine	8	(75.0)	17	(64.7)	12	(91.7)	14	(78.6)	15	(100.0)
Maryland	194	(94.8)	192	(90.1)	149	(91.3)	162	(90.1)	141	(90.8)
Massachusetts	154	(84.4)	172	(84.9)	149	(91.9)	163	(89.0)	151	(88.7)
Michigan	137	(91.2)	115	(87.8)	107	(95.3)	87	(95.4)	112	(95.5)
Minnesota	101	(95.0)	133	(95.5)	125	(94.4)	122	(92.6)	125	(95.2)
Mississippi	73	(91.8)	67	(89.6)	42	(90.5)	60	(81.7)	55	(89.1)
Missouri	79	(93.7)	69	(81.2)	84	(75.0)	65	(69.2)	77	(81.8)
Montana	7	(100.0)	5	(80.0)	4	(100.0)	3	(100.0)	7	(100.0)
Nebraska	20	(85.0)	17	(82.4)	20	(95.0)	35	(68.6)	27	(37.0)
Nevada	82	(95.1)	71	(90.1)	78	(96.2)	66	(93.9)	71	(94.4)
New Hampshire	10	(100.0)	7	(100.0)	12	(83.3)	10	(100.0)	7	(100.0)
New Jersey	252	(90.1)	232	(93.5)	252	(92.1)	244	(92.6)	254	(90.9)
New Mexico	38	(92.1)	27	(96.3)	34	(94.1)	35	(94.3)	29	(93.1)
New York State ⁴	187	(94.1)	169	(94.1)	172	(89.5)	167	(92.2)	149	(94.0)
New York City	565	(92.2)	540	(93.7)	545	(95.2)	476	(95.4)	489	(94.1)
North Carolina	200	(95.5)	187	(97.9)	178	(97.8)	159	(97.5)	162	(92.6)
North Dakota	5	(60.0)	23	(56.5)	10	(80.0)	12	(58.3)	7	(85.7)
Ohio	118	(88.1)	129	(86.0)	118	(83.9)	121	(90.9)	116	(83.6)
Oklahoma	72	(91.7)	72	(87.5)	58	(93.1)	53	(94.3)	59	(88.1)
Oregon	64	(89.1)	53	(96.2)	61	(86.9)	58	(94.8)	64	(89.1)
Pennsylvania	202	(85.1)	181	(81.8)	176	(76.1)	166	(80.1)	165	(80.6)
Rhode Island	25	(80.0)	19	(89.5)	23	(95.7)	17	(88.2)	23	(100.0)
South Carolina	113	(95.6)	105	(90.5)	92	(84.8)	65	(95.4)	86	(91.9)
South Dakota	12	(83.3)	14	(92.9)	6	(83.3)	5	(80.0)	14	(50.0)
Tennessee	130	(94.6)	142	(95.8)	118	(96.6)	128	(95.3)	106	(95.3)
Texas	1,070	(87.9)	1,025	(90.0)	958	(88.1)	1,025	(87.7)	1,089	(87.5)
Utah	25	(100.0)	28	(96.4)	28	(100.0)	23	(100.0)	31	(93.5)
Vermont	6	(83.3)	4	(100.0)	4	(100.0)	2	(100.0)	7	(100.0)
Virginia	189	(89.4)	191	(84.8)	148	(94.6)	170	(95.9)	180	(92.2)
Washington	155	(85.2)	148	(85.1)	178	(84.8)	169	(91.1)	162	(74.1)
West Virginia	10	(90.0)	7	(100.0)	9	(100.0)	12	(91.7)	6	(83.3)
Wisconsin	62	(90.3)	58	(91.4)	42	(90.5)	38	(89.5)	58	(86.2)
Wyoming	4	(50.0)	3	--	0	--	2	(100.0)	2	(100.0)
American Samoa ⁵	3	(0.0)	1	(100.0)	2	(100.0)	0	--	4	--
Fed. States of Micronesia ⁵	130	(90.0)	161	(88.2)	117	(93.2)	160	(92.5)	93	(90.3)
Guam ⁵	72	(94.4)	60	(86.7)	44	(95.5)	51	(94.1)	66	(60.6)
Marshall Islands ⁵	138	(76.8)	129	(92.2)	137	(90.5)	137	(92.0)	118	(87.3)
N. Mariana Islands ⁵	29	(75.9)	19	(84.2)	25	(88.0)	10	(100.0)	25	(80.0)
Puerto Rico ⁵	34	(94.1)	49	(91.8)	37	(91.9)	32	(90.6)	38	(73.7)
Republic of Palau ⁵	6	(83.3)	4	(100.0)	7	(100.0)	7	(100.0)	11	(90.9)
U.S. Virgin Islands ⁵	0	--	3	--	1	--	0	--	0	--

¹Most recent year for which data are available.

²Total cases for which therapy ≤1 year indicated in persons alive at diagnosis with an initial regimen of one or more drugs prescribed who did not die within one year of initiating therapy. Excludes persons with initial isolate rifampin resistant, or patient with bone and joint disease, meningial disease or disease of the central nervous system, or pediatric patient (age <15) 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.

³Percentage of total cases in persons who completed therapy within one year for whom therapy less than one year was indicated.

⁴Excludes New York City.

⁵Not included in U.S. totals.

Note: See Technical Notes for description of completion of therapy calculation.

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Morbidity Tables, Metropolitan Statistical Areas, 2017

Table 53. Tuberculosis Cases and Case Rates per 100,000 Population: Metropolitan Statistical Areas with ≥500,000 Population, 2017 and 2016

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table53.htm>.

Metropolitan Statistical Area	Cases		Case Rates		Population Estimates 2017
	2017	2016	2017	2016	
Akron, OH	5	16	0.7	2.3	703,505
Albany-Schenectady-Troy, NY	9	7	1.0	0.8	886,188
Albuquerque, NM	15	13	1.6	1.4	910,726
Allentown-Bethlehem-Easton, PA-NJ	7	5	0.8	0.6	840,550
Atlanta-Sandy Springs-Roswell, GA	199	203	3.4	3.5	5,884,736
Augusta-Richmond County, GA-SC	12	13	2.0	2.2	600,151
Austin-Round Rock, TX	49	65	2.3	3.2	2,115,827
Bakersfield, CA	25	20	2.8	2.3	893,119
Baltimore-Columbia-Towson, MD	79	73	2.8	2.6	2,808,175
Baton Rouge, LA	16	13	1.9	1.6	834,159
Birmingham-Hoover, AL	22	18	1.9	1.6	1,149,807
Boise City, ID	6	10	0.8	1.4	709,845
Boston-Cambridge-Newton, MA-NH	170	148	3.5	3.1	4,836,531
Bridgeport-Stamford-Norwalk, CT	26	21	2.7	2.2	949,921
Buffalo-Cheektowaga-Niagara Falls, NY	6	15	0.5	1.3	1,136,856
Cape Coral-Fort Myers, FL	22	19	3.0	2.6	739,224
Charleston-North Charleston, SC	22	12	2.8	1.6	775,831
Charlotte-Concord-Gastonia, NC-SC	58	50	2.3	2.0	2,525,305
Chattanooga, TN-GA	6	11	1.1	2.0	556,548
Chicago-Naperville-Elgin, IL-IN-WI	303	311	3.2	3.3	9,533,040
Cincinnati, OH-KY-IN	29	28	1.3	1.3	2,179,082
Cleveland-Elyria, OH	36	23	1.7	1.1	2,058,844
Colorado Springs, CO	---	---	---	---	723,878
Columbia, SC	10	21	1.2	2.6	825,033
Columbus, OH	57	51	2.7	2.5	2,078,725
Dallas-Fort Worth-Arlington, TX	296	319	4.0	4.4	7,399,662
Dayton, OH	6	7	0.7	0.9	803,416
Deltona-Daytona Beach-Ormond Beach, FL	5	11	0.8	1.7	649,202
Denver-Aurora-Lakewood, CO	54	48	1.9	1.7	2,888,227
Des Moines-West Des Moines, IA	16	17	2.5	2.7	645,911
Detroit-Warren-Dearborn, MI	82	82	1.9	1.9	4,313,002
Durham-Chapel Hill, NC	10	13	1.8	2.3	567,428
El Paso, TX	36	44	4.3	5.2	844,818
Fayetteville-Springdale-Rogers, AR-MO	21	27	3.9	5.1	537,463
Fresno, CA	62	60	6.3	6.1	989,255
Grand Rapids-Wyoming, MI	15	16	1.4	1.5	1,059,113
Greensboro-High Point, NC	24	20	3.2	2.6	761,184
Greenville-Anderson-Mauldin, SC	18	10	2.0	1.1	895,923
Harrisburg-Carlisle, PA	11	6	1.9	1.1	571,903
Hartford-West Hartford-East Hartford, CT	18	17	1.5	1.4	1,210,259
Houston-The Woodlands-Sugar Land, TX	341	349	4.9	5.1	6,892,427
Indianapolis-Carmel-Anderson, IN	48	52	2.4	2.6	2,028,614
Jackson, MS	16	18	2.8	3.1	578,715
Jacksonville, FL	44	55	2.9	3.7	1,504,980
Kansas City, MO-KS	23	34	1.1	1.6	2,128,912
Knoxville, TN	8	7	0.9	0.8	877,104
Lakeland-Winter Haven, FL	10	12	1.5	1.8	686,483
Lancaster, PA	7	6	1.3	1.1	542,903
Las Vegas-Henderson-Paradise, NV	62	46	2.8	2.1	2,204,079
Lexington-Fayette, KY	12	11	2.3	2.2	512,650
Little Rock-North Little Rock-Conway, AR	15	23	2.0	3.1	738,344
Los Angeles-Long Beach-Anaheim, CA	726	753	5.4	5.6	13,353,907
Louisville/Jefferson County, KY-IN	21	39	1.6	3.0	1,293,953
Madison, WI	8	8	1.2	1.2	654,230
McAllen-Edinburg-Mission, TX	57	84	6.6	9.9	860,661
Memphis, TN-MS-AR	50	39	3.7	2.9	1,348,260
Miami-Fort Lauderdale-West Palm Beach, FL	203	234	3.3	3.8	6,158,824
Milwaukee-Waukesha-West Allis, WI	19	17	1.2	1.1	1,576,236
Minneapolis-St. Paul-Bloomington, MN-WI	132	132	3.7	3.7	3,600,618
Modesto, CA	15	9	2.7	1.7	547,899
Nashville-Davidson-Murfreesboro-Franklin, TN	44	35	2.3	1.9	1,903,045
New Haven-Milford, CT	14	9	1.6	1.0	860,435
New Orleans-Metairie, LA	50	52	3.9	4.1	1,275,762
New York-Newark-Jersey City, NY-NJ-PA	976	909	4.8	4.5	20,320,876
Northport-Sarasota-Bradenton, FL	23	25	2.9	3.2	804,690
Ogden-Clearfield, UT	---	---	---	---	665,358

Continued

Metropolitan Statistical Area	Cases		Case Rates		Population Estimates 2017
	2017	2016	2017	2016	
Oklahoma City, OK	15	26	1.1	1.9	1,383,737
Omaha-Council Bluffs, NE-IA	13	14	1.4	1.5	933,316
Orlando-Kissimmee-Sanford, FL	67	80	2.7	3.3	2,509,831
Oxnard-Thousand Oaks-Ventura, CA	26	32	3.0	3.8	854,223
Palm Bay-Melbourne-Titusville, FL	11	18	1.9	3.1	589,162
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	145	145	2.4	2.4	6,096,120
Phoenix-Mesa-Scottsdale, AZ	120	131	2.5	2.8	4,737,270
Pittsburgh, PA	20	18	0.9	0.8	2,333,367
Portland-South Portland, ME	7	10	1.3	1.9	532,083
Portland-Vancouver-Hillsboro, OR-WA	56	55	2.3	2.3	2,453,168
Providence-Warwick, RI-MA	23	24	1.4	1.5	1,621,122
Provo-Orem, UT	---	---	---	---	617,675
Raleigh, NC	33	40	2.5	3.1	1,335,079
Richmond, VA	19	22	1.5	1.7	1,294,204
Riverside-San Bernardino-Ontario, CA	115	116	2.5	2.6	4,580,670
Rochester, NY	14	26	1.3	2.4	1,077,948
Sacramento--Roseville--Arden-Arcade, CA	75	85	3.2	3.7	2,324,884
St. Louis, MO-IL	47	39	1.7	1.4	2,807,338
Salt Lake City, UT	22	14	1.8	1.2	1,203,105
San Antonio-New Braunfels, TX	79	71	3.2	2.9	2,473,974
San Diego-Carlsbad, CA	237	258	7.1	7.8	3,337,685
San Francisco-Oakland-Hayward, CA	357	337	7.6	7.2	4,727,357
San Jose-Sunnyvale-Santa Clara, CA	186	161	9.3	8.1	1,998,463
Santa Rosa, CA	7	12	1.4	2.4	504,217
Scranton--Wilkes-Barre--Hazleton, PA	---	---	---	---	555,426
Seattle-Tacoma-Bellevue, WA	156	159	4.0	4.2	3,867,046
Spokane-Spokane Valley, WA	---	---	---	---	564,236
Springfield, MA	14	10	2.2	1.6	631,652
Stockton-Lodi, CA	53	42	7.1	5.7	745,424
Syracuse, NY	6	18	0.9	2.7	654,841
Tampa-St. Petersburg-Clearwater, FL	68	80	2.2	2.6	3,091,399
Toledo, OH	---	---	---	---	603,668
Tucson, AZ	27	25	2.6	2.5	1,022,769
Tulsa, OK	13	17	1.3	1.7	990,706
Urban Honolulu, HI	90	91	9.1	9.2	988,650
Virginia Beach-Norfolk-Newport News, VA-NC	25	27	1.4	1.6	1,725,246
Washington-Arlington-Alexandria, DC-VA-MD-WV	292	291	4.7	4.7	6,216,589
Wichita, KS	8	11	1.2	1.7	645,628
Winston-Salem, NC	10	9	1.5	1.4	667,733
Worcester, MA-CT	17	19	1.8	2.0	942,475
Youngstown-Warren-Boardman, OH-PA	---	---	---	---	541,926
TOTAL: 107 AREAS	7,289	7,376	3.3	3.3	222,093,749
San Juan-Caguas-Guaynabo, PR	34	53	1.6	2.5	2,112,005

Note: 2017 and 2016 population case counts and rates updated using County Population Totals and Components of Change: 2010–2017 (<https://www.census.gov/data/datasets/2017/demo/popest/counties-total.html>); accessed July 5, 2018.

Dashes (---) indicate that the data is suppressed for geographic areas below the state level that reported <5 cases in 2016 or 2017.

See Technical Notes for definition of metropolitan statistical areas.

Table 54. Tuberculosis Cases, by Age Group: Metropolitan Statistical Areas with ≥500,000 Population, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table54.htm>.

Metropolitan Statistical Area	Total cases	Under 5	5–14	15–24	25–44	45–64	≥65	Unknown/ missing
Akron, OH	5	0	0	0	4	0	1	0
Albany-Schenectady-Troy, NY	9	0	0	0	4	3	2	0
Albuquerque, NM	15	0	0	0	4	3	8	0
Allentown-Bethlehem-Easton, PA-NJ	7	0	0	0	2	0	5	0
Atlanta-Sandy Springs-Roswell, GA	199	5	6	17	75	63	33	0
Augusta-Richmond County, GA-SC	12	1	0	2	6	0	3	0
Austin-Round Rock, TX	49	2	1	3	18	13	12	0
Bakersfield, CA	25	2	1	3	6	6	7	0
Baltimore-Columbia-Towson, MD	79	0	1	8	33	24	13	0
Baton Rouge, LA	16	1	1	2	6	5	1	0
Birmingham-Hoover, AL	22	1	0	2	4	9	6	0
Boise City, ID	6	0	1	2	1	1	1	0
Boston-Cambridge-Newton, MA-NH	170	4	4	13	62	47	40	0
Bridgeport-Stamford-Norwalk, CT	26	2	0	4	6	6	8	0
Buffalo-Cheektowaga-Niagara Falls, NY	6	0	0	0	3	2	1	0
Cape Coral-Fort Myers, FL	22	0	0	2	11	6	3	0
Charleston-North Charleston, SC	22	3	0	2	4	5	8	0
Charlotte-Concord-Gastonia, NC-SC	58	2	2	7	16	24	7	0
Chattanooga, TN-GA	6	0	0	1	2	1	2	0
Chicago-Naperville-Elgin, IL-IN-WI	303	6	7	31	84	84	91	0
Cincinnati, OH-KY-IN	29	0	0	3	11	5	10	0
Cleveland-Elyria, OH	36	0	0	2	15	9	10	0
Colorado Springs, CO	10	1	0	1	2	3	3	0
Columbia, SC	10	0	2	0	0	5	3	0
Columbus, OH	57	0	1	7	23	17	9	0
Dallas-Fort Worth-Arlington, TX	296	8	2	19	115	104	48	0
Dayton, OH	6	0	0	3	0	1	2	0
Daytona-Ormond Beach-Ormond Beach, FL	5	0	0	0	1	3	1	0
Denver-Aurora-Lakewood, CO	54	2	0	1	28	6	17	0
Des Moines-West Des Moines, IA	16	0	1	2	6	5	2	0
Detroit-Warren-Dearborn, MI	82	2	2	3	25	24	26	0
Durham-Chapel Hill, NC	10	0	1	2	3	2	2	0
El Paso, TX	36	1	0	5	6	9	15	0
Fayetteville-Springdale-Rogers, AR-MO	21	4	3	2	5	4	3	0
Fresno, CA	62	3	0	5	14	20	20	0
Grand Rapids-Wyoming, MI	15	0	1	3	0	5	6	0
Greensboro-High Point, NC	24	2	1	4	6	6	5	0
Greenville-Anderson-Mauldin, SC	18	0	1	2	6	4	5	0
Harrisburg-Carlisle, PA	11	0	0	1	5	2	3	0
Hartford-West Hartford-East Hartford, CT	18	1	0	1	7	2	7	0
Houston-The Woodlands-Sugar Land, TX	341	11	12	29	99	124	66	0
Indianapolis-Carmel-Anderson, IN	48	1	0	5	19	12	11	0
Jackson, MS	16	1	0	1	3	10	1	0
Jacksonville, FL	44	0	0	4	12	18	10	0
Kansas City, MO-KS	23	0	0	4	5	7	7	0
Knoxville, TN	8	0	0	1	1	3	3	0
Lakeland-Winter Haven, FL	10	0	0	2	1	5	2	0
Lancaster, PA	7	0	0	1	4	1	1	0
Las Vegas-Henderson-Paradise, NV	62	0	1	5	19	19	18	0
Lexington-Fayette, KY	12	1	2	1	5	2	1	0
Little Rock-North Little Rock-Conway, AR	15	0	0	0	6	6	3	0
Los Angeles-Long Beach-Anaheim, CA	726	13	10	59	165	239	240	0
Louisville/Jefferson County, KY-IN	21	0	2	3	6	4	6	0
Madison, WI	8	0	0	2	2	3	1	0
McAllen-Edinburg-Mission, TX	57	4	3	5	17	11	17	0
Memphis, TN-MS-AR	50	5	2	7	20	11	5	0
Miami-Fort Lauderdale-West Palm Beach, FL	203	2	2	17	69	75	38	0
Milwaukee-Waukesha-West Allis, WI	19	0	1	0	7	5	6	0
Minneapolis-St. Paul-Bloomington, MN-WI	132	7	10	17	38	27	33	0
Modesto, CA	15	1	0	0	2	7	5	0
Nashville-Davidson-Murfreesboro-Franklin, TN	44	1	0	5	12	18	8	0
New Haven-Milford, CT	14	0	0	1	3	5	5	0
New Orleans-Metairie, LA	50	1	1	4	16	17	11	0
New York-Newark-Jersey City, NY-NJ-PA	976	20	14	93	309	306	234	0
Northport-Sarasota-Bradenton, FL	23	0	0	2	8	10	3	0
Ogden-Clearfield, UT	---	---	---	---	---	---	---	---

Continued

Metropolitan Statistical Area	Total cases	Under 5	5–14	15–24	25–44	45–64	≥65	Unknown/ missing
Oklahoma City, OK	15	0	0	2	2	1	10	0
Omaha-Council Bluffs, NE-IA	13	0	0	2	6	4	1	0
Orlando-Kissimmee-Sanford, FL	67	0	0	4	26	23	14	0
Oxnard-Thousand Oaks-Ventura, CA	26	0	0	1	8	9	8	0
Palm Bay-Melbourne-Titusville, FL	11	1	0	0	3	2	5	0
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	145	2	2	8	42	47	44	0
Phoenix-Mesa-Scottsdale, AZ	120	7	4	14	44	33	18	0
Pittsburgh, PA	20	0	0	2	10	3	5	0
Portland-South Portland, ME	7	0	0	0	5	1	1	0
Portland-Vancouver-Hillsboro, OR-WA	56	0	2	3	15	21	15	0
Providence-Warwick, RI-MA	23	0	2	1	8	6	6	0
Provo-Orem, UT	---	---	---	---	---	---	---	---
Raleigh, NC	33	1	0	2	12	9	9	0
Richmond, VA	19	0	0	2	6	5	6	0
Riverside-San Bernardino-Ontario, CA	115	2	2	17	25	37	32	0
Rochester, NY	14	1	2	1	4	3	3	0
Sacramento--Roseville--Arden-Arcade, CA	75	1	1	4	17	22	30	0
St. Louis, MO-IL	47	0	0	4	17	16	10	0
Salt Lake City, UT	22	2	2	2	9	6	1	0
San Antonio-New Braunfels, TX	79	2	4	10	24	24	15	0
San Diego-Carlsbad, CA	237	4	7	24	55	88	59	0
San Francisco-Oakland-Hayward, CA	357	4	6	20	86	115	126	0
San Jose-Sunnyvale-Santa Clara, CA	186	4	1	8	51	46	76	0
Santa Rosa, CA	7	0	0	1	3	0	3	0
Scranton--Wilkes-Barre--Hazleton, PA	6	0	0	0	2	3	1	0
Seattle-Tacoma-Bellevue, WA	156	2	2	15	58	44	34	1
Spokane-Spokane Valley, WA	---	---	---	---	---	---	---	---
Springfield, MA	14	0	0	2	7	2	3	0
Stockton-Lodi, CA	53	1	3	2	13	13	20	1
Syracuse, NY	6	0	0	1	1	2	2	0
Tampa-St. Petersburg-Clearwater, FL	68	2	1	7	25	19	14	0
Toledo, OH	---	---	---	---	---	---	---	---
Tucson, AZ	27	0	1	6	4	9	7	0
Tulsa, OK	13	0	0	2	3	6	2	0
Urban Honolulu, HI	90	2	2	10	24	25	27	0
Virginia Beach-Norfolk-Newport News, VA-NC	25	1	0	2	4	10	8	0
Washington-Arlington-Alexandria, DC-VA-MD-WV	292	9	5	28	115	80	55	0
Wichita, KS	8	0	0	1	4	2	1	0
Winston-Salem, NC	10	0	0	0	6	2	2	0
Worcester, MA-CT	17	0	2	4	3	7	1	0
Youngstown-Warren-Boardman, OH-PA	---	---	---	---	---	---	---	---
Total: 107 Areas	7,289	170	152	646	2,229	2,231	1,859	2
San Juan-Caguas-Guaynabo, PR	34	1	0	0	3	14	16	0

Note: See Technical Notes for definition of metropolitan statistical areas.

Dashes (---) indicate that the data is suppressed for geographic areas below the state level that reported <5 cases in 2017.

Table 55. Tuberculosis Cases, by Hispanic Ethnicity and Non-Hispanic Race: Metropolitan Statistical Area with ≥500,000 Population, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table55.htm>.

Metropolitan Statistical Area	Total cases	Hispanic/Latino ¹	American Indian/Alaska Native	Asian	Black/African American	Native Hawaiian/Other Pacific Islander	White	Multiple race ²	Unknown/missing
Akron, OH	5	0	0	4	1	0	0	0	0
Albany-Schenectady-Troy, NY	9	1	0	6	0	0	2	0	0
Albuquerque, NM	15	10	1	3	1	0	0	0	0
Allentown-Bethlehem-Easton, PA-NJ	7	1	0	4	1	0	0	1	0
Atlanta-Sandy Springs-Roswell, GA	199	29	0	62	93	0	15	0	0
Augusta-Richmond County, GA-SC	12	0	0	1	10	0	1	0	0
Austin-Round Rock, TX	49	27	0	17	4	0	1	0	0
Bakersfield, CA	25	16	0	6	1	0	2	0	0
Baltimore-Columbia-Towson, MD	79	10	0	30	28	0	7	4	0
Baton Rouge, LA	16	1	0	5	7	0	2	1	0
Birmingham-Hoover, AL	22	3	0	2	11	0	4	2	0
Boise City, ID	6	3	0	0	3	0	0	0	0
Boston-Cambridge-Newton, MA-NH	170	26	0	79	44	0	13	3	5
Bridgeport-Stamford-Norwalk, CT	26	9	0	7	6	0	4	0	0
Buffalo-Cheektowaga-Niagara Falls, NY	6	0	0	2	3	0	1	0	0
Cape Coral-Fort Myers, FL	22	11	0	2	3	0	5	1	0
Charleston-North Charleston, SC	22	1	0	3	12	0	6	0	0
Charlotte-Concord-Gastonia, NC-SC	58	17	0	16	18	1	6	0	0
Chattanooga, TN-GA	6	2	0	1	2	0	1	0	0
Chicago-Naperville-Elgin, IL-IN-WI	303	79	0	136	60	0	28	0	0
Cincinnati, OH-KY-IN	29	3	0	14	6	0	6	0	0
Cleveland-Elyria, OH	36	0	0	9	16	0	11	0	0
Colorado Springs, CO	10	1	1	4	0	1	3	0	0
Columbia, SC	10	0	0	0	5	0	5	0	0
Columbus, OH	57	2	0	20	28	0	7	0	0
Dallas-Fort Worth-Arlington, TX	296	90	0	79	93	2	30	2	0
Dayton, OH	6	0	0	3	3	0	0	0	0
Deltona-Daytona Beach-Ormond Beach, FL	5	0	0	1	3	0	1	0	0
Denver-Aurora-Lakewood, CO	54	14	0	15	17	1	5	2	0
Des Moines-West Des Moines, IA	16	2	0	8	4	0	2	0	0
Detroit-Warren-Dearborn, MI	82	7	1	33	19	0	22	0	0
Durham-Chapel Hill, NC	10	6	0	2	0	0	2	0	0
El Paso, TX	36	33	0	1	1	0	1	0	0
Fayetteville-Springdale-Rogers, AR-MO	21	2	0	2	0	12	5	0	0
Fresno, CA	62	25	0	35	0	0	1	1	0
Grand Rapids-Wyoming, MI	15	2	0	8	1	0	4	0	0
Greensboro-High Point, NC	24	7	0	5	11	0	0	1	0
Greenville-Anderson-Mauldin, SC	18	6	0	6	5	0	1	0	0
Harrisburg-Carlisle, PA	11	1	0	4	4	0	2	0	0
Hartford-West Hartford-East Hartford, CT	18	6	0	5	1	0	6	0	0
Houston-The Woodlands-Sugar Land, TX	341	163	0	95	62	0	21	0	0
Indianapolis-Carmel-Anderson, IN	48	9	0	25	7	0	7	0	0
Jackson, MS	16	1	0	1	13	0	1	0	0
Jacksonville, FL	44	4	0	9	15	0	15	1	0
Kansas City, MO-KS	23	4	0	12	4	0	2	1	0
Knoxville, TN	8	1	0	1	1	0	5	0	0
Lakeland-Winter Haven, FL	10	1	0	3	3	0	3	0	0
Lancaster, PA	7	0	0	4	2	0	0	1	0
Las Vegas-Henderson-Paradise, NV	62	18	0	30	8	0	6	0	0
Lexington-Fayette, KY	12	2	0	1	5	0	3	1	0
Little Rock-North Little Rock-Conway, AR	15	2	0	5	6	0	2	0	0
Los Angeles-Long Beach-Anaheim, CA	726	278	0	375	37	2	33	1	0
Louisville/Jefferson County, KY-IN	21	1	0	8	4	0	8	0	0
Madison, WI	8	1	0	3	3	0	0	1	0
McAllen-Edinburg-Mission, TX	57	56	0	1	0	0	0	0	0
Memphis, TN-MS-AR	50	6	0	10	27	0	7	0	0
Miami-Fort Lauderdale-West Palm Beach, FL	203	79	1	23	82	0	18	0	0
Milwaukee-Waukesha-West Allis, WI	19	6	0	5	5	0	3	0	0
Minneapolis-St. Paul-Bloomington, MN-WI	132	8	2	46	71	0	5	0	0
Modesto, CA	15	6	0	5	1	0	2	0	1
Nashville-Davidson-Murfreesboro-Franklin, TN	44	12	0	10	14	0	8	0	0
New Haven-Milford, CT	14	3	0	3	3	0	5	0	0
New Orleans-Metairie, LA	50	10	0	17	13	0	10	0	0
New York-Newark-Jersey City, NY-NJ-PA	976	270	0	432	167	0	81	10	16
Northport-Sarasota-Bradenton, FL	23	9	0	1	7	0	6	0	0
Ogden-Clearfield, UT	---	---	---	---	---	---	---	---	---

Continued

Metropolitan Statistical Area	Total cases	Hispanic/Latino ¹	American Indian/Alaska Native	Asian	Black/African American	Native Hawaiian/Other Pacific Islander	White	Multiple race ²	Unknown/missing
Oklahoma City, OK	15	2	0	6	2	0	5	0	0
Omaha-Council Bluffs, NE-IA	13	3	0	6	1	0	2	1	0
Orlando-Kissimmee-Sanford, FL	67	15	0	15	31	0	6	0	0
Oxnard-Thousand Oaks-Ventura, CA	26	12	0	10	1	1	2	0	0
Palm Bay-Melbourne-Titusville, FL	11	2	0	2	2	0	5	0	0
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	145	18	0	71	35	1	17	3	0
Phoenix-Mesa-Scottsdale, AZ	120	65	6	23	16	1	9	0	0
Pittsburgh, PA	20	0	0	7	7	0	6	0	0
Portland-South Portland, ME	7	1	0	1	4	0	1	0	0
Portland-Vancouver-Hillsboro, OR-WA	56	8	0	31	6	3	8	0	0
Providence-Warwick, RI-MA	23	4	1	9	6	0	3	0	0
Provo-Orem, UT	---	---	---	---	---	---	---	---	---
Raleigh, NC	33	3	0	17	9	0	3	1	0
Richmond, VA	19	5	0	5	5	0	4	0	0
Riverside-San Bernardino-Ontario, CA	115	68	0	29	12	0	5	0	1
Rochester, NY	14	0	0	10	1	0	3	0	0
Sacramento--Roseville--Arden-Arcade, CA	75	8	0	50	5	3	9	0	0
St. Louis, MO-IL	47	7	0	9	22	0	9	0	0
Salt Lake City, UT	22	12	1	3	2	2	2	0	0
San Antonio-New Braunfels, TX	79	62	0	8	3	0	6	0	0
San Diego-Carlsbad, CA	237	124	0	86	13	0	14	0	0
San Francisco-Oakland-Hayward, CA	357	47	0	265	23	3	18	0	1
San Jose-Sunnyvale-Santa Clara, CA	186	20	0	157	7	1	1	0	0
Santa Rosa, CA	7	2	0	4	0	0	1	0	0
Scranton--Wilkes-Barre--Hazleton, PA	6	2	0	0	2	0	2	0	0
Seattle-Tacoma-Bellevue, WA	156	22	2	66	40	8	13	4	1
Spokane-Spokane Valley, WA	---	---	---	---	---	---	---	---	---
Springfield, MA	14	1	0	7	3	0	3	0	0
Stockton-Lodi, CA	53	18	0	21	2	1	10	1	0
Syracuse, NY	6	0	0	4	1	0	1	0	0
Tampa-St. Petersburg-Clearwater, FL	68	8	0	15	19	0	25	1	0
Toledo, OH	---	---	---	---	---	---	---	---	---
Tucson, AZ	27	13	2	7	1	0	4	0	0
Tulsa, OK	13	4	0	2	5	0	2	0	0
Urban Honolulu, HI	90	1	0	66	0	20	2	1	0
Virginia Beach-Norfolk-Newport News, VA-NC	25	3	0	12	7	0	3	0	0
Washington-Arlington-Alexandria, DC-VA-MD-WV	292	70	0	100	98	0	21	3	0
Wichita, KS	8	1	0	3	1	0	3	0	0
Winston-Salem, NC	10	3	0	4	2	0	1	0	0
Worcester, MA-CT	17	2	0	7	6	0	2	0	0
Youngstown-Warren-Boardman, OH-PA	---	---	---	---	---	---	---	---	---
TOTAL: 107 AREAS	7,289	2,042	18	2,906	1,487	66	696	49	25
San Juan-Caguas-Guaynabo, PR	34	34	0	0	0	0	0	0	0

¹Persons of Hispanic/Latino origin may be of any or multiple race.

²Indicates two or more races reported for a person and does not include persons of Hispanic/Latino origin.

Note: Case counts for race categories (American Indian/Alaska Native, Asian, black/African American, Native Hawaiian/Other Pacific Islander, and white) are mutually exclusive and do not include persons of Hispanic ethnicity or multiple race.

See Technical Notes for definition of metropolitan statistical areas and Hispanic ethnicity and non-Hispanic race.

Dashes (---) indicate that the data is suppressed for geographic areas below the state level that reported <5 cases in 2017.

Table 56. Tuberculosis Cases and Percentages, U.S.-Born Persons and Non-U.S.-Born Persons¹: Metropolitan Statistical Areas with ≥500,000 Population, 2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table56.htm>.

Metropolitan Statistical Area	Total cases	U.S.-Born Persons		Non-U.S.-Born Persons		Unknown	
		No.	(%)	No.	(%)	No.	(%)
Akron, OH	5	0	(0.0)	5	(100.0)	0	(0.0)
Albany-Schenectady-Troy, NY	9	1	(11.1)	8	(88.9)	0	(0.0)
Albuquerque, NM	15	2	(13.3)	13	(86.7)	0	(0.0)
Allentown-Bethlehem-Easton, PA-NJ	7	1	(14.3)	6	(85.7)	0	(0.0)
Atlanta-Sandy Springs-Roswell, GA	199	70	(35.2)	129	(64.8)	0	(0.0)
Augusta-Richmond County, GA-SC	12	10	(83.3)	2	(16.7)	0	(0.0)
Austin-Round Rock, TX	49	15	(30.6)	34	(69.4)	0	(0.0)
Bakersfield, CA	25	7	(28.0)	18	(72.0)	0	(0.0)
Baltimore-Columbia-Towson, MD	79	21	(26.6)	58	(73.4)	0	(0.0)
Baton Rouge, LA	16	11	(68.8)	5	(31.3)	0	(0.0)
Birmingham-Hoover, AL	22	15	(68.2)	7	(31.8)	0	(0.0)
Boise City, ID	6	1	(16.7)	5	(83.3)	0	(0.0)
Boston-Cambridge-Newton, MA-NH	170	23	(13.5)	147	(86.5)	0	(0.0)
Bridgeport-Stamford-Norwalk, CT	26	2	(7.7)	24	(92.3)	0	(0.0)
Buffalo-Cheektowaga-Niagara Falls, NY	6	2	(33.3)	4	(66.7)	0	(0.0)
Cape Coral-Fort Myers, FL	22	7	(31.8)	15	(68.2)	0	(0.0)
Charleston-North Charleston, SC	22	16	(72.7)	6	(27.3)	0	(0.0)
Charlotte-Concord-Gastonia, NC-SC	58	26	(44.8)	32	(55.2)	0	(0.0)
Chattanooga, TN-GA	6	3	(50.0)	3	(50.0)	0	(0.0)
Chicago-Naperville-Elgin, IL-IN-WI	303	84	(27.7)	219	(72.3)	0	(0.0)
Cincinnati, OH-KY-IN	29	8	(27.6)	21	(72.4)	0	(0.0)
Cleveland-Elyria, OH	36	18	(50.0)	18	(50.0)	0	(0.0)
Colorado Springs, CO	10	6	(60.0)	4	(40.0)	0	(0.0)
Columbia, SC	10	7	(70.0)	3	(30.0)	0	(0.0)
Columbus, OH	57	8	(14.0)	49	(86.0)	0	(0.0)
Dallas-Fort Worth-Arlington, TX	296	117	(39.5)	179	(60.5)	0	(0.0)
Dayton, OH	6	2	(33.3)	4	(66.7)	0	(0.0)
Deltona-Daytona Beach-Ormond Beach, FL	5	3	(60.0)	2	(40.0)	0	(0.0)
Denver-Aurora-Lakewood, CO	54	7	(13.0)	47	(87.0)	0	(0.0)
Des Moines-West Des Moines, IA	16	2	(12.5)	14	(87.5)	0	(0.0)
Detroit-Warren-Dearborn, MI	82	28	(34.1)	54	(65.9)	0	(0.0)
Durham-Chapel Hill, NC	10	3	(30.0)	7	(70.0)	0	(0.0)
El Paso, TX	36	6	(16.7)	30	(83.3)	0	(0.0)
Fayetteville-Springdale-Rogers, AR-MO	21	9	(42.9)	12	(57.1)	0	(0.0)
Fresno, CA	62	11	(17.7)	51	(82.3)	0	(0.0)
Grand Rapids-Wyoming, MI	15	3	(20.0)	12	(80.0)	0	(0.0)
Greensboro-High Point, NC	24	12	(50.0)	12	(50.0)	0	(0.0)
Greenville-Anderson-Mauldin, SC	18	8	(44.4)	10	(55.6)	0	(0.0)
Harrisburg-Carlisle, PA	11	3	(27.3)	8	(72.7)	0	(0.0)
Hartford-West Hartford-East Hartford, CT	18	5	(27.8)	13	(72.2)	0	(0.0)
Houston-The Woodlands-Sugar Land, TX	341	108	(31.7)	233	(68.3)	0	(0.0)
Indianapolis-Carmel-Anderson, IN	48	8	(16.7)	40	(83.3)	0	(0.0)
Jackson, MS	16	14	(87.5)	2	(12.5)	0	(0.0)
Jacksonville, FL	44	26	(59.1)	18	(40.9)	0	(0.0)
Kansas City, MO-KS	23	4	(17.4)	19	(82.6)	0	(0.0)
Knoxville, TN	8	6	(75.0)	2	(25.0)	0	(0.0)
Lakeland-Winter Haven, FL	10	5	(50.0)	5	(50.0)	0	(0.0)
Lancaster, PA	7	1	(14.3)	6	(85.7)	0	(0.0)
Las Vegas-Henderson-Paradise, NV	62	14	(22.6)	48	(77.4)	0	(0.0)
Lexington-Fayette, KY	12	3	(25.0)	9	(75.0)	0	(0.0)
Little Rock-North Little Rock-Conway, AR	15	9	(60.0)	6	(40.0)	0	(0.0)
Los Angeles-Long Beach-Anaheim, CA	726	105	(14.5)	613	(84.4)	8	(1.1)
Louisville/Jefferson County, KY-IN	21	7	(33.3)	14	(66.7)	0	(0.0)
Madison, WI	8	1	(12.5)	7	(87.5)	0	(0.0)
McAllen-Edinburg-Mission, TX	57	25	(43.9)	32	(56.1)	0	(0.0)
Memphis, TN-MS-AR	50	32	(64.0)	18	(36.0)	0	(0.0)
Miami-Fort Lauderdale-West Palm Beach, FL	203	48	(23.6)	155	(76.4)	0	(0.0)
Milwaukee-Waukesha-West Allis, WI	19	4	(21.1)	15	(78.9)	0	(0.0)
Minneapolis-St. Paul-Bloomington, MN-WI	132	19	(14.4)	113	(85.6)	0	(0.0)
Modesto, CA	15	6	(40.0)	9	(60.0)	0	(0.0)
Nashville-Davidson-Murfreesboro-Franklin, TN	44	14	(31.8)	30	(68.2)	0	(0.0)
New Haven-Milford, CT	14	4	(28.6)	10	(71.4)	0	(0.0)
New Orleans-Metairie, LA	50	24	(48.0)	26	(52.0)	0	(0.0)
New York-Newark-Jersey City, NY-NJ-PA	976	139	(14.2)	837	(85.8)	0	(0.0)
Northport-Sarasota-Bradenton, FL	23	13	(56.5)	10	(43.5)	0	(0.0)
Ogden-Clearfield, UT	---	---	---	---	---	---	---

Continued

Metropolitan Statistical Area	Total cases	U.S.-Born Persons		Non-U.S.-Born Persons		Unknown	
		No.	(%)	No.	(%)	No.	(%)
Oklahoma City, OK	15	7	(46.7)	8	(53.3)	0	(0.0)
Omaha-Council Bluffs, NE-IA	13	1	(7.7)	12	(92.3)	0	(0.0)
Orlando-Kissimmee-Sanford, FL	67	19	(28.4)	48	(71.6)	0	(0.0)
Oxnard-Thousand Oaks-Ventura, CA	26	5	(19.2)	21	(80.8)	0	(0.0)
Palm Bay-Melbourne-Titusville, FL	11	6	(54.5)	5	(45.5)	0	(0.0)
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	145	42	(29.0)	102	(70.3)	1	(0.7)
Phoenix-Mesa-Scottsdale, AZ	120	32	(26.7)	88	(73.3)	0	(0.0)
Pittsburgh, PA	20	8	(40.0)	12	(60.0)	0	(0.0)
Portland-South Portland, ME	7	0	(0.0)	7	(100.0)	0	(0.0)
Portland-Vancouver-Hillsboro, OR-WA	56	13	(23.2)	43	(76.8)	0	(0.0)
Providence-Warwick, RI-MA	23	4	(17.4)	19	(82.6)	0	(0.0)
Provo-Orem, UT	---	---	---	---	---	---	---
Raleigh, NC	33	8	(24.2)	25	(75.8)	0	(0.0)
Richmond, VA	19	7	(36.8)	12	(63.2)	0	(0.0)
Riverside-San Bernardino-Ontario, CA	115	28	(24.3)	84	(73.0)	3	(2.6)
Rochester, NY	14	3	(21.4)	11	(78.6)	0	(0.0)
Sacramento--Roseville--Arden-Arcade, CA	75	15	(20.0)	60	(80.0)	0	(0.0)
St. Louis, MO-IL	47	19	(40.4)	28	(59.6)	0	(0.0)
Salt Lake City, UT	22	5	(22.7)	17	(77.3)	0	(0.0)
San Antonio-New Braunfels, TX	79	41	(51.9)	38	(48.1)	0	(0.0)
San Diego-Carlsbad, CA	237	63	(26.6)	174	(73.4)	0	(0.0)
San Francisco-Oakland-Hayward, CA	357	52	(14.6)	305	(85.4)	0	(0.0)
San Jose-Sunnyvale-Santa Clara, CA	186	10	(5.4)	176	(94.6)	0	(0.0)
Santa Rosa, CA	7	2	(28.6)	5	(71.4)	0	(0.0)
Scranton--Wilkes-Barre--Hazleton, PA	6	4	(66.7)	2	(33.3)	0	(0.0)
Seattle-Tacoma-Bellevue, WA	156	26	(16.7)	129	(82.7)	1	(0.6)
Spokane-Spokane Valley, WA	---	---	---	---	---	---	---
Springfield, MA	14	1	(7.1)	13	(92.9)	0	(0.0)
Stockton-Lodi, CA	53	21	(39.6)	32	(60.4)	0	(0.0)
Syracuse, NY	6	0	(0.0)	6	(100.0)	0	(0.0)
Tampa-St. Petersburg-Clearwater, FL	68	42	(61.8)	26	(38.2)	0	(0.0)
Toledo, OH	---	---	---	---	---	---	---
Tucson, AZ	27	9	(33.3)	18	(66.7)	0	(0.0)
Tulsa, OK	13	7	(53.8)	6	(46.2)	0	(0.0)
Urban Honolulu, HI	90	14	(15.6)	76	(84.4)	0	(0.0)
Virginia Beach-Norfolk-Newport News, VA-NC	25	11	(44.0)	14	(56.0)	0	(0.0)
Washington-Arlington-Alexandria, DC-VA-MD-WV	292	46	(15.8)	246	(84.2)	0	(0.0)
Wichita, KS	8	3	(37.5)	5	(62.5)	0	(0.0)
Winston-Salem, NC	10	2	(20.0)	8	(80.0)	0	(0.0)
Worcester, MA-CT	17	2	(11.8)	15	(88.2)	0	(0.0)
Youngstown-Warren-Boardman, OH-PA	---	---	---	---	---	---	---
Total: 107 Areas	7,289	1,805	(24.8)	5,471	(75.1)	13	(0.2)
San Juan-Caguas-Guaynabo, PR	34	33	(97.1)	1	(2.9)	0	(0.0)

¹Includes persons born outside of the United States (including the U.S. territories), except persons born to at least one U.S. citizen parent.

Note: See Technical Notes for definition of metropolitan statistical area.

Dashes (---) indicate that the data is suppressed for geographic areas below the state level that reported <5 cases in 2017.

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Estimates of Recent Transmission, 2016–2017

Notes on Recent Transmission

Overview

Control of recent TB transmission is an important component of the national TB elimination strategy. Programs can begin to monitor trends in recent transmission by comparing current (2016–2017) state- and county-specific estimates published in this section of the annual report with 2015–2016 estimates published in the previous edition of the annual report.

These estimates may also help state and local TB programs to:

- use limited public health resources to plan and prioritize TB control activities,
- enhance service delivery by applying sufficient resources,
- identify geographic, demographic, and social disparities in the proportion of cases attributed to recent transmission,
- develop specific prevention strategies and interventions to interrupt transmission, and
- facilitate connections among jurisdictions to share TB control strategies.

Recent transmission can occur in communities regardless of the overall TB incidence in a particular state; even states with a low incidence of TB overall may have counties where extensive recent transmission is occurring.¹ However, these estimates are not intended for comparisons across jurisdictions because TB incidence, demographics, and molecular epidemiology vary considerably among states and counties.

Terminology

Recent transmission

A TB case is designated as attributed to recent transmission if a plausible source case² can be identified in a person who:

1. has the same *M. tuberculosis* genotype,
2. has an infectious form of TB disease,
3. resides within 10 miles of the TB case,
4. is 10 years of age or older, and
5. was diagnosed within 2 years before the TB case.

Recent transmission estimates are mapped as counts to describe the relative numbers of cases attributed to recent TB transmission (Figure 1).

Extensive recent transmission

A TB case is designated as attributed to extensive recent transmission when the criteria above for recent transmission are met, and furthermore the case belongs to a plausible transmission chain of 6 or more cases (i.e., the plausible source case and 4 or more other cases identified within 3 years before the TB case). Extensive recent transmission estimates are presented as a percentage of all genotyped cases to identify areas and populations disproportionately

affected by extensive recent transmission among counties with 10 or more genotyped cases (Figure 2).

Recent Transmission in the United States

Nationally, 1,787 (13.1%) of 13,650 genotyped cases reported during 2016–2017 are attributed to recent transmission (Table 57). Among all genotyped cases, 4.6% (n=625) are attributed to extensive recent transmission.

Geography

Forty-seven counties (or county equivalents) had >5% of cases attributed to extensive recent transmission (Table 58). In these counties, the median number of genotyped cases was 38 (range: 10–904 cases). The median percentage of genotyped cases occurring in U.S.-born patients (48.0%) was significantly higher in these 47 counties compared with the national proportion of TB cases among U.S.-born persons (29.7%).

Demographic and social characteristics

Cases among U.S.-born persons were more frequently attributed to both recent transmission (25.6%) and extensive recent transmission (10.6%) than cases among non-U.S.-born persons (7.8% and 2.0%, respectively) (Table 59). Racial disparities in the proportions of cases attributed to recent transmission and extensive recent transmission were identified among American Indians/Alaska Natives, Native Hawaiian/Other Pacific Islander, and non-Hispanic Blacks/African Americans (Table 59). In addition, greater proportions of cases attributed to recent transmission and extensive recent transmission were identified among persons who reported drug use and excess alcohol use compared with persons without these risk factors. Cases also were more frequently attributed to recent transmission and extensive recent transmission among people experiencing homelessness within the past year and residents of a correctional facility at the time of diagnosis.

Limitations

These methods for estimating recent transmission can only be applied to culture-confirmed, genotyped cases (n=13,650 cases reported in 2016 and 2017). Pediatric and other clinically diagnosed cases are likely underrepresented because cases without genotyping results are excluded. This limitation is especially relevant for TB cases in young children, which are most likely to be due to recent transmission.

The proportions of cases attributed to recent transmission are generally higher in areas with fewer *M. tuberculosis* genotypes and where prevalent or common

genotypes (Table 26) have been predominant for many years; in relatively closed populations and remote areas (e.g., parts of Alaska) recent transmission may be overestimated. As evidenced by whole-genome sequencing (WGS), genomic diversity may be greater than what is apparent using current genotyping methods among cases reported by areas bordering Mexico. Consequently, definitively distinguishing cases attributed to recent transmission from cases caused by reactivation of longstanding, untreated latent TB infection by using the methods in this report can be difficult.

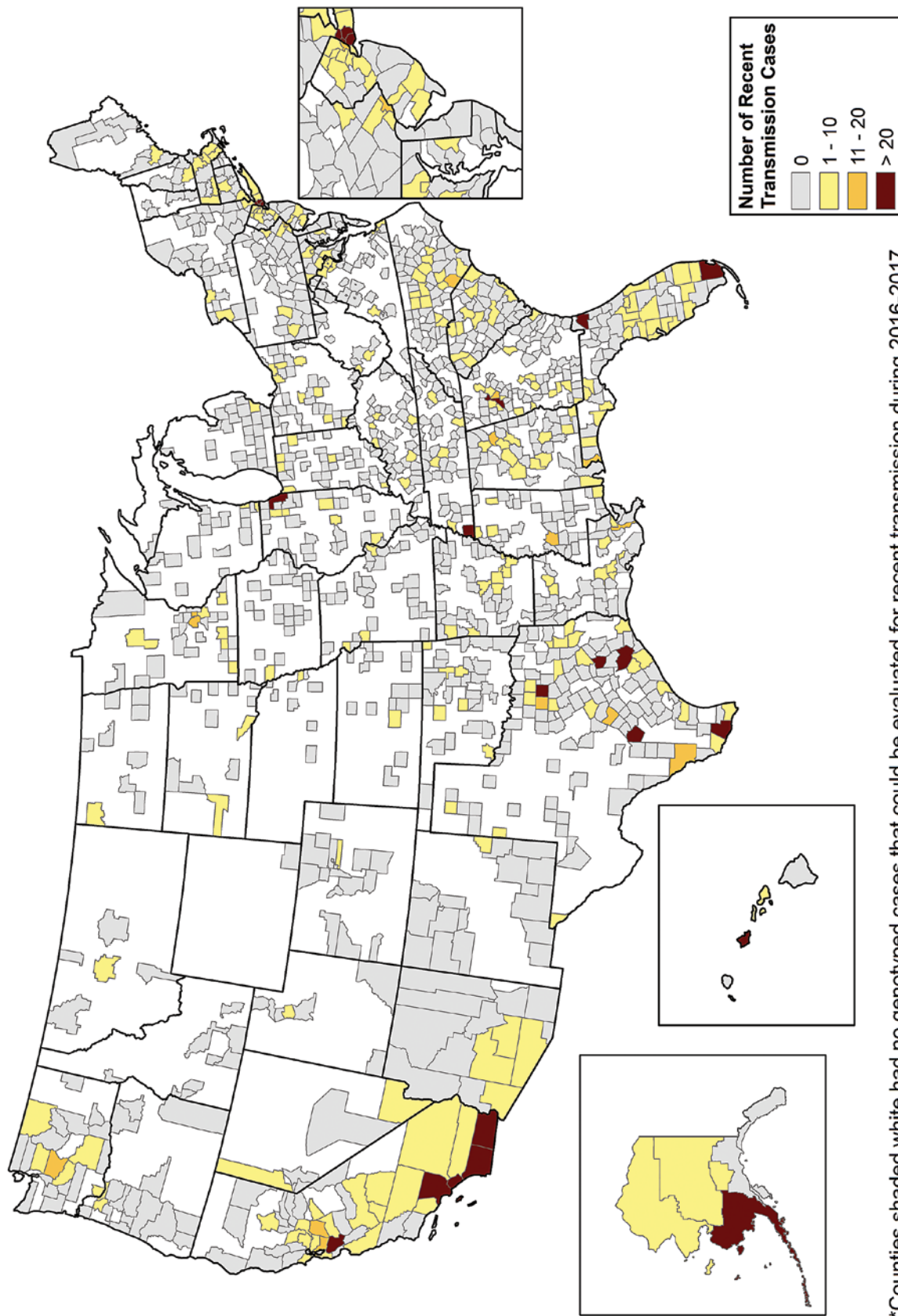
Future Applications

Although national surveillance data can only provide aggregated estimates, these methods offer state and local TB control programs new opportunities to track trends in recent transmission and prioritize public health activities and interventions. In 2018, CDC established the National TB Molecular Surveillance Center to perform WGS on at least one isolate from every culture-positive TB case in the United States. As universal WGS results are further adopted into program practice, characterization and investigation of recent TB transmission will become increasingly precise.

References

1. Yuen CM, Kammerer JS, Marks K, Navin TR, France AM. Recent Transmission of Tuberculosis - United States, 2011-2014. *PLoS One* 2016; 11: e0153728.125
2. France AM, Grant J, Kammerer JS, Navin TR. A field-validated approach using surveillance and genotyping data to estimate tuberculosis attributable to recent transmission in the United States. *Am J Epidemiol* 2015;182:799–807.

Figure 1. Estimated Cases Attributed to Recent Transmission of Tuberculosis, United States, 2016–2017*

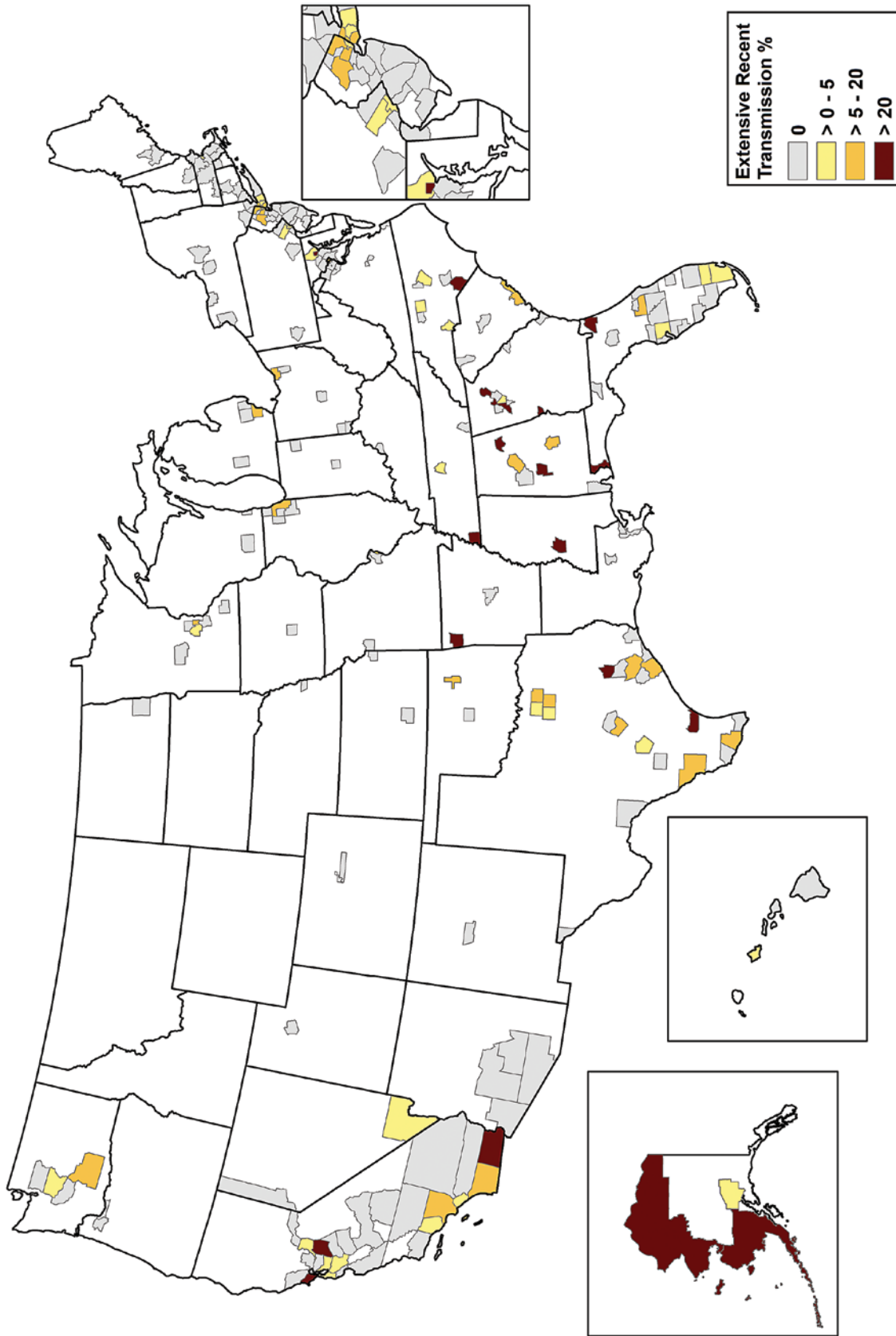


*Countries shaded white had no genotyped cases that could be evaluated for recent transmission during 2016-2017.

Recent transmission is evaluated using national TB molecular surveillance data. A case is estimated to be attributed to recent transmission if a plausible source case can be identified who: has the same *M. tuberculosis* genotype, has an infectious form of TB disease, resides within 10 miles of the case, is 10 years of age or older, and was diagnosed within 2 years prior to the case's diagnosis date.

A map of the United States is displayed with state borders as well as county or county equivalent borders for those jurisdictions that had at least one genotyped TB case that could be evaluated for recent transmission during 2016–2017. Counts of cases attributed to recent transmission are shaded by county or county equivalent to depict relative numbers of cases attributed to recent transmission. All 50 states are shown; the New York City metropolitan area is represented as a zoomed in frame on the map. A total of 21 county or county equivalents (associated with large urban settings) had more than 20 TB cases attributed to recent transmission during 2016–2017.

Figure 2. Estimated Percentage of Extensive Recent Transmission of Tuberculosis in Counties with 10 or More Genotyped Cases, United States, 2016–2017*



*Counties shaded white had <10 genotyped cases that could be evaluated for recent transmission during 2016–2017.

A TB case is estimated to be attributed to extensive recent transmission when the case is attributed to recent transmission using the plausible source case method, and the case belongs to a plausible transmission chain of 6 or more cases within 3 years prior to the case's diagnosis date.

A map of the United States is displayed with state borders as well as county or county equivalent borders for those jurisdictions that had 10 or more genotyped TB cases that could be evaluated for recent transmission during 2016–2017. Percentages of genotyped cases attributed to extensive recent transmission are shaded by county or county equivalent to depict jurisdictions that are disproportionately affected by extensive recent transmission. All 50 states are shown; the New York City metropolitan area is represented as a zoomed-in frame on the map. A total of 19 county or county equivalents had more than 20 percent of genotyped cases during 2016–2017 attributed to extensive recent transmission.

Table 57. Counts and Percentages of Tuberculosis Cases Estimated to be Attributed to Recent Transmission and Extensive Recent Transmission: Reporting Areas, 2016–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table57.htm>.

Reporting Area	Total Genotyped Cases ¹	Cases Not Attributed to Recent Transmission		Cases Attributed to Recent Transmission ²		Cases Attributed to Extensive Recent Transmission ³	
		No.	(%)	No.	(%)	No.	(%)
UNITED STATES	13,650	11,863	(86.9)	1,787	(13.1)	625	(4.6)
Alabama	179	123	(68.7)	56	(31.3)	23	(12.8)
Alaska	90	52	(57.8)	38	(42.2)	22	(24.4)
Arizona	295	277	(93.9)	18	(6.1)	0	(0.0)
Arkansas	105	94	(89.5)	11	(10.5)	4	(3.8)
California	3,198	2,767	(86.5)	431	(13.5)	169	(5.3)
Colorado	94	93	(98.9)	1	(1.1)	0	(0.0)
Connecticut	85	82	(96.5)	3	(3.5)	0	(0.0)
Delaware	48	34	(70.8)	14	(29.2)	7	(14.6)
District of Columbia	22	22	(100)	0	(0.0)	0	(0.0)
Florida	931	800	(85.9)	131	(14.1)	42	(4.5)
Georgia	407	337	(82.8)	70	(17.2)	25	(6.1)
Hawaii	182	155	(85.2)	27	(14.8)	6	(3.3)
Idaho	19	19	(100.0)	0	(0.0)	0	(0.0)
Illinois	463	401	(86.6)	62	(13.4)	16	(3.5)
Indiana	143	131	(91.6)	12	(8.4)	0	(0.0)
Iowa	69	68	(98.6)	1	(1.4)	0	(0.0)
Kansas	60	59	(98.3)	1	(1.7)	0	(0.0)
Kentucky	114	105	(92.1)	9	(7.9)	0	(0.0)
Louisiana	151	124	(82.1)	27	(17.9)	0	(0.0)
Maine	33	31	(93.9)	2	(6.1)	0	(0.0)
Maryland	312	285	(91.3)	27	(8.7)	10	(3.2)
Massachusetts	282	268	(95.0)	14	(5.0)	3	(1.1)
Michigan	155	151	(97.4)	4	(2.6)	4	(2.6)
Minnesota	278	243	(87.4)	35	(12.6)	10	(3.6)
Mississippi	90	71	(78.9)	19	(21.1)	10	(11.1)
Missouri	120	108	(90.0)	12	(10.0)	1	(0.8)
Montana	5	4	(80.0)	1	(20.0)	0	(0.0)
Nebraska	32	31	(96.9)	1	(3.1)	0	(0.0)
Nevada	102	93	(91.2)	9	(8.8)	2	(2.0)
New Hampshire	26	24	(92.3)	2	(7.7)	0	(0.0)
New Jersey	443	405	(91.4)	38	(8.6)	10	(2.3)
New Mexico	63	62	(98.4)	1	(1.6)	0	(0.0)
New York State ⁴	278	265	(95.3)	13	(4.7)	1	(0.4)
New York City	895	738	(82.5)	157	(17.5)	58	(6.5)
North Carolina	353	303	(85.8)	50	(14.2)	24	(6.8)
North Dakota	25	23	(92.0)	2	(8.0)	0	(0.0)
Ohio	208	189	(90.9)	19	(9.1)	6	(2.9)
Oklahoma	92	78	(84.8)	14	(15.2)	1	(1.1)
Oregon	96	91	(94.8)	5	(5.2)	0	(0.0)
Pennsylvania	258	233	(90.3)	25	(9.7)	3	(1.2)
Rhode Island	16	16	(100.0)	0	(0.0)	0	(0.0)
South Carolina	144	123	(85.4)	21	(14.6)	1	(0.7)
South Dakota	22	18	(81.8)	4	(18.2)	0	(0.0)
Tennessee	171	141	(82.5)	30	(17.5)	17	(9.9)
Texas	1,727	1,407	(81.5)	320	(18.5)	144	(8.3)
Utah	38	35	(92.1)	3	(7.9)	0	(0.0)
Vermont	8	8	(100.0)	0	(0.0)	0	(0.0)
Virginia	309	292	(94.5)	17	(5.5)	1	(0.3)
Washington	319	296	(92.8)	23	(7.2)	5	(1.6)
West Virginia	22	20	(90.9)	2	(9.1)	0	(0.0)
Wisconsin	72	67	(93.1)	5	(6.9)	0	(0.0)
Wyoming	1	1	(100.0)	0	(0.0)	0	(0.0)

¹Total number of *M. tuberculosis* genotyped cases that are eligible to be evaluated for recent transmission (i.e., complete data for the plausible-source case method's algorithm).

²Number of cases attributed to recent transmission includes any given case with a plausible source case regardless of cluster size.

³Number of cases attributed to extensive recent transmission includes only cases in a plausible chain of transmission of six or more cases (five secondary and one source case).

⁴Excludes New York City.

Table 58. Counts and Percentages of Tuberculosis Cases Estimated to be Attributed to Recent Transmission and Extensive Recent Transmission: Counties with >5 Percent Estimated Extensive Recent Transmission, 2016–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table58.htm>.

Counties and County Equivalents ¹	Total Genotyped Cases ²	Percentage of Genotyped Cases that are U.S.-born	Number of Unique GENTypes ³	Cases Attributed to Recent Transmission ⁴	Cases Attributed to Extensive Recent Transmission ⁵	Percentage of Cases Attributed to Extensive Recent Transmission ⁶
Arlington, VA	19	5.3	19	2	1	5.3
Baltimore (City), MD	41	48.8	33	10	9	22.0
Bergen, NJ	36	19.4	34	4	3	8.3
Brazoria, TX	15	40.0	13	2	1	6.7
Bronx, NY	134	22.4	118	29	8	6.0
Charleston, SC	13	84.6	7	6	1	7.7
Collin, TX	37	21.6	34	2	2	5.4
Cook, IL	312	27.6	265	55	16	5.1
Cuyahoga, OH	25	48.0	24	2	2	8.0
Dallas, TX	259	48.3	207	51	39	15.1
District Of Columbia	48	31.3	37	14	7	14.6
Duval, FL	78	64.1	51	30	19	24.4
Escambia, FL	20	80.0	10	11	11	55.0
Essex, NJ	58	19.0	53	9	3	5.2
Etowah, AL	21	90.5	8	14	7	33.3
Fulton, GA	54	74.1	39	21	11	20.4
Hall, GA	11	81.8	6	6	6	54.5
Harris, TX	392	33.2	299	95	51	13.0
Hidalgo, TX	108	41.7	81	32	10	9.3
Hinds, MS	25	76.0	16	12	7	28.0
Imperial, CA	58	32.8	36	25	14	24.1
Jefferson, AL	23	73.9	17	9	4	17.4
Kings, NY	264	16.7	231	52	25	9.5
Los Angeles, CA	904	15.5	717	163	69	7.6
Marin, CA	10	20.0	7	4	3	30.0
Montgomery, AL	10	80.0	6	6	1	10.0
Morris, NJ	15	6.7	15	1	1	6.7
Muscogee, GA	11	72.7	7	5	5	45.5
New York, NY	105	18.1	101	21	6	5.7
Nueces, TX	20	55.0	14	6	6	30.0
Northern (Region), AK	11	81.8	7	6	4	36.4
Orange, FL	88	34.1	77	10	6	6.8
Perry, AL	11	100.0	2	10	10	90.9
Ramsey, MN	65	7.7	52	13	6	9.2
Robeson, NC	26	92.3	8	16	13	50.0
San Diego, CA	386	25.9	313	72	39	10.1
San Joaquin, CA	70	32.9	52	19	16	22.9
Shelby, TN	53	66.0	33	22	16	30.2
Southwest (Region), AK	38	97.4	14	22	17	44.7
St. Louis (City), MO	19	52.6	15	5	1	5.3
Travis, TX	66	28.8	58	12	6	9.1
Tulsa, OK	17	52.9	15	3	1	5.9
Walker, TX	42	88.1	20	24	15	35.7
Washington, AR	14	35.7	8	5	4	28.6
Wayne, MI	41	48.8	38	4	4	9.8
Webb, TX	45	53.3	33	18	6	13.3
Yakima, WA	14	42.9	11	5	2	14.3

¹Counties (and county equivalents) that had >5% of cases attributed to extensive recent transmission are included in table 58.

²Total number of *M. tuberculosis* genotyped cases that are eligible to be evaluated for recent transmission (i.e., complete data for the plausible-source case method's algorithm).

³Total number of unique GENTypes identified in the reporting area among all genotyped cases that are eligible to be evaluated for recent transmission.

⁴Number of cases attributed to recent transmission includes any given case with a plausible source case regardless of cluster size.

⁵Number of cases attributed to extensive recent transmission includes only cases in a plausible chain of transmission of six or more cases (five secondary and one source case).

⁶Proportion of cases attributed to extensive recent transmission calculated for counties with 10 or more genotyped cases.

Table 59. Characteristics of Tuberculosis Cases Estimated to be Attributed to Recent Transmission and Extensive Recent Transmission: United States, 2016–2017

For accessibility the following table is located at <https://www.cdc.gov/tb/statistics/reports/2017/table59.htm>.

Case Characteristics	Total Genotyped Cases ¹	Cases Not Attributed to Recent Transmission		Cases Attributed to Recent Transmission ²		Cases Attributed to Extensive Recent Transmission ³	
		No.	(%)	No.	(%)	No.	(%)
Total	13,650	11,863	(86.9)	1,787	(13.1)	625	(4.6)
Origin of birth							
U.S.-born	4,019	2,988	(74.3)	1,031	(25.6)	427	(10.6)
Non-U.S.-born	9,613	8,860	(92.1)	753	(7.8)	197	(2.0)
Unknown or missing	18	15	(83.3)	3	(16.7)	1	(5.6)
Race and ethnicity							
Hispanic/Latino	3,693	3,185	(86.2)	508	(13.8)	152	(4.1)
American Indian/Alaska Native	168	109	(64.9)	59	(35.1)	34	(20.2)
Asian	5,045	4,656	(92.3)	389	(7.7)	116	(2.3)
Black or African American	2,808	2,231	(79.4)	577	(20.5)	243	(8.6)
Native Hawaiian/Other Pacific Islander	129	105	(81.4)	24	(18.6)	6	(4.6)
White	1,662	1,454	(87.5)	208	(12.5)	68	(4.1)
Multiple race	107	89	(83.2)	18	(16.8)	6	(5.6)
Unknown or missing	38	34	(89.5)	4	(10.5)	0	(0.0)
Age group (years)							
0–4	126	74	(58.7)	52	(41.3)	8	(6.3)
5–14	119	93	(78.2)	26	(21.8)	9	(7.6)
15–24	1,324	1,122	(84.7)	202	(15.2)	67	(5.1)
25–44	4,202	3,616	(86.0)	586	(13.9)	202	(4.8)
45–64	4,180	3,552	(85.0)	628	(15.0)	238	(5.7)
≥65	3,694	3,401	(92.1)	293	(7.9)	101	(2.7)
Unknown	5	5	(100.0)	0	(0.0)	0	(0.0)
Disease site							
Pulmonary only	10,001	8,569	(85.7)	1,432	(14.3)	503	(5.0)
Extrapulmonary	2,087	1,899	(91.0)	188	(9.0)	65	(3.1)
Both	1,553	1,387	(89.3)	166	(10.7)	56	(3.6)
Unknown	9	8	(88.9)	1	(11.1)	1	(11.1)
Sputum smear							
Positive	6,318	5,411	(85.6)	907	(14.4)	330	(5.2)
Negative	5,403	4,742	(87.8)	661	(12.2)	225	(4.2)
Not done	1,914	1,695	(88.6)	219	(11.4)	70	(3.6)
Unknown or missing	15	15	(100.0)	0	(0.0)	0	(0.0)
Cavitary disease⁴							
Yes	123	106	(86.2)	17	(13.8)	7	(5.7)
No	1,108	985	(88.9)	123	(11.1)	42	(3.8)
Unknown or missing	3	3	(100.0)	0	(0.0)	0	(0.0)
Homeless within past year							
Yes	677	463	(68.4)	214	(31.6)	110	(16.2)
No	12,891	11,333	(87.9)	1,558	(12.1)	511	(4.0)
Unknown or missing	82	67	(81.7)	15	(18.3)	4	(4.9)
Excess alcohol use within the past year							
Yes	1,363	1,000	(73.4)	363	(26.6)	146	(10.7)
No	12,073	10,689	(88.5)	1,384	(11.5)	464	(3.8)
Unknown or missing	214	174	(81.3)	40	(18.7)	15	(7.0)
Injecting illicit drug use within past year							
Yes	165	118	(71.5)	47	(28.5)	18	(10.9)
No	13,286	11,585	(87.2)	1,701	(12.8)	595	(4.5)
Unknown or missing	199	160	(80.4)	39	(19.6)	12	(6.0)
Noninjecting illicit drug use within past year							
Yes	978	667	(68.2)	311	(31.8)	141	(14.4)
No	12,480	11,040	(88.5)	1,440	(11.5)	474	(3.8)
Unknown or missing	192	156	(81.2)	36	(18.8)	10	(5.2)
Resident of a correctional facility at the time of diagnosis							
Yes	431	348	(80.7)	83	(19.2)	40	(9.3)
No	13,112	11,426	(87.1)	1,686	(12.8)	582	(4.4)
Unknown or missing	107	89	(83.2)	18	(16.8)	3	(2.8)
HIV status							
Positive	681	570	(83.7)	111	(16.3)	52	(7.6)
Negative	11,512	9,983	(86.7)	1,529	(13.3)	527	(4.6)
Refused	270	243	(90.0)	27	(10.0)	11	(4.1)
Not offered	793	709	(89.4)	84	(10.6)	29	(3.6)
Unknown, missing, or indeterminate	394	358	(90.9)	36	(9.1)	6	(1.5)
Multidrug-resistant TB							
Yes	215	184	(85.6)	31	(14.4)	10	(4.6)
No	12,736	11,070	(86.9)	1,666	(13.1)	588	(4.6)
Unknown or missing	699	609	(87.1)	90	(12.9)	27	(3.8)

¹Total number of *M. tuberculosis* genotyped cases that are eligible to be evaluated for recent transmission (i.e., complete data for the plausible-source case method's algorithm).

²Number of cases attributed to recent transmission includes any given case with a plausible source case regardless of cluster size.

³Number of cases attributed to extensive recent transmission includes only cases in a plausible chain of transmission of six or more cases (five secondary and one source case).

⁴Cavitary disease only assessed for persons with pulmonary TB and an abnormal x-ray.

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Surveillance Slides

For accessibility, text explanations instead of a figure with Alt text are used for each slide.
The accessible surveillance slide set is also found at <https://www.cdc.gov/tb/statistics/surv/surv2017/default.htm>.

Surveillance Slide 1

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of Tuberculosis Elimination

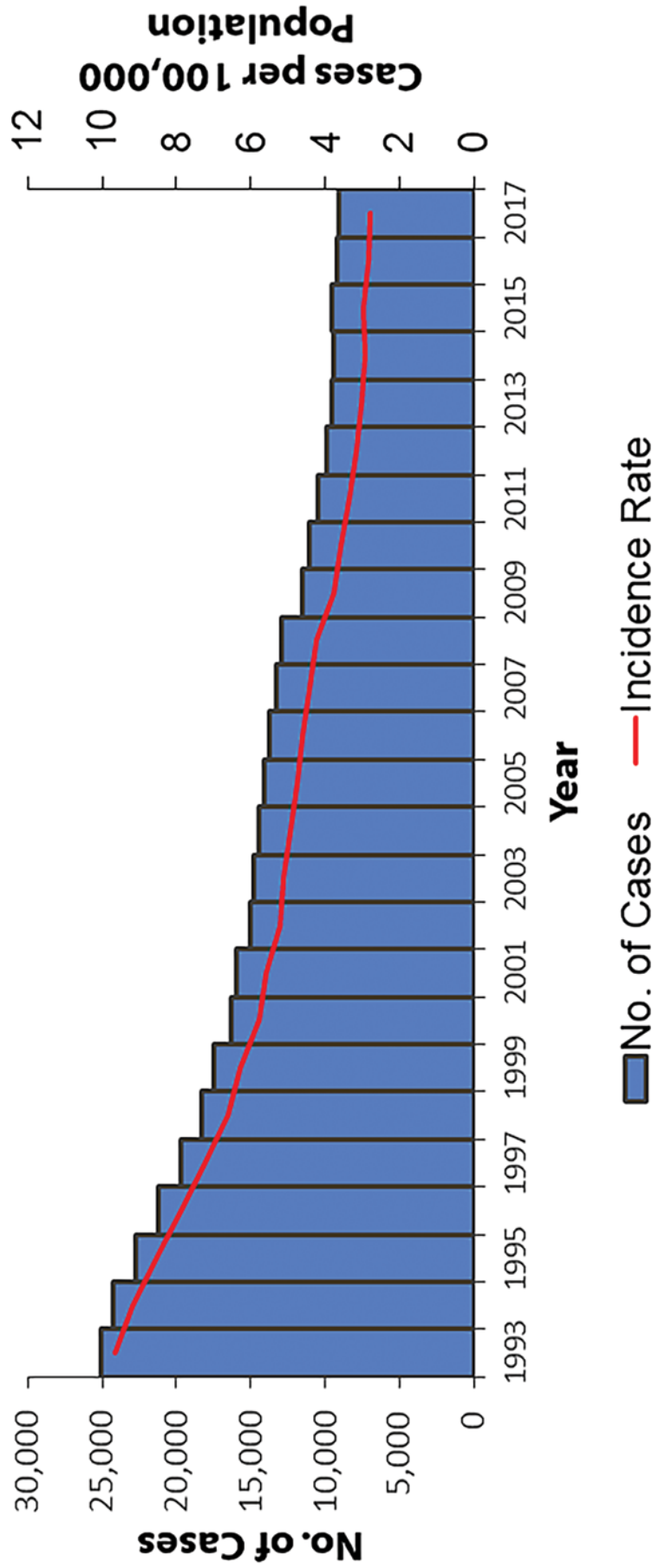


Tuberculosis in the United States 1993–2017

National Tuberculosis Surveillance System

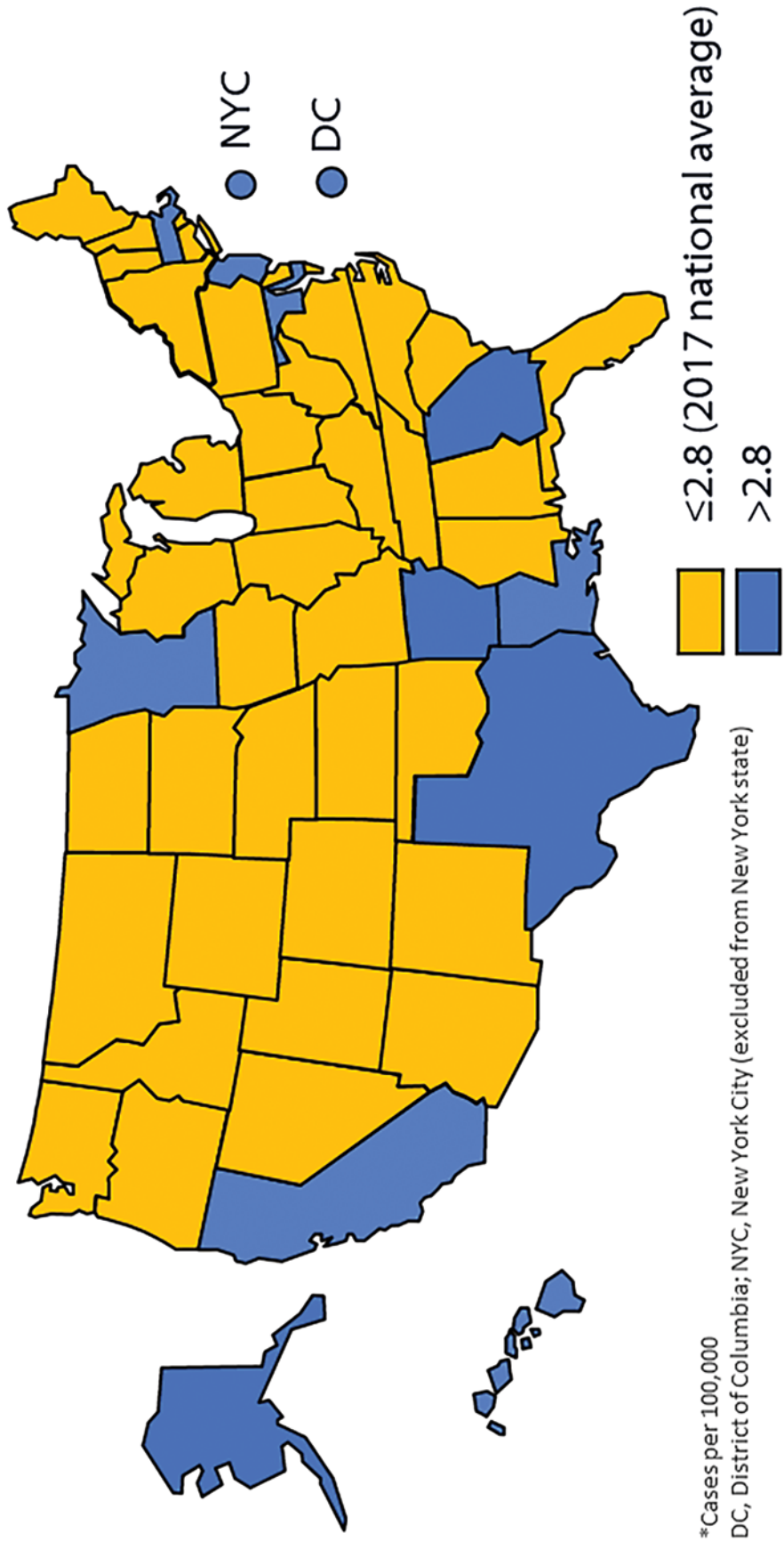
Slide 1 (title slide). Tuberculosis in the United States—National Tuberculosis Surveillance System, Highlights from 2017. This slide set was prepared by the Division of Tuberculosis Elimination, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services (HHS). It provides trends for the recent past and highlights data collected through the National Tuberculosis Surveillance System for 2017. Since 1953, through the cooperation of state and local health departments, CDC has collected information on newly reported cases of tuberculosis (TB) disease in the United States. The data presented here were collected by the revised TB case report (Report of Verified Case of Tuberculosis, or RVCT) is submitted electronically to CDC. The data for this slide set are based on TB case reports for 1993–2017 received by CDC as of June 1, 2018. All case counts and rates for years 1993–2016 have been updated and data from 2017 has been added.

Reported Tuberculosis (TB) Cases and Rates United States, 1993–2017



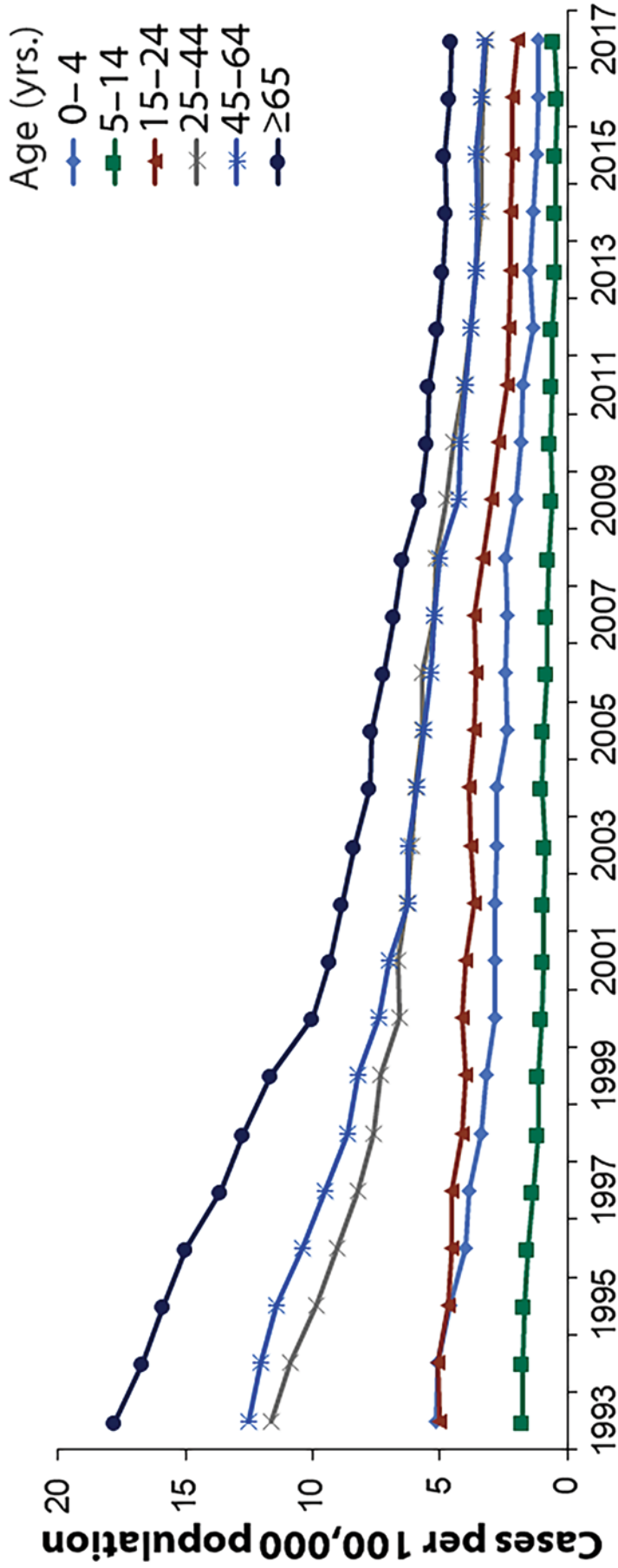
Slide 2. Reported Tuberculosis (TB) Cases and Rates, United States, 1993–2017. The modern era of TB surveillance began in 1993. Case counts decreased each year from 1993 to 2014, and again in 2016 and 2017. However, in 2015, a slight increase occurred in the total number of TB cases reported in the United States. From 1993 until 2000, TB case counts decreased at an average annual percent change (APC) of -6.24%, and the incidence rate during this period also declined at a similar pace (APC = -7.30%). The rate of decline in case counts slowed during 2000–2007 (APC = -2.83%) with a similar deceleration in the rate of decline of the incidence rate during this period (APC = -3.70%). Declines in case counts accelerated again during 2007–2012 (APC = -5.88%) with a corresponding decrease in the incidence rate during this period (APC = -6.70%). However, since 2012 the rate of decline has slowed considerably with an APC of -1.50% for the case count and an APC of -2.20% for the incidence rate during this period. In 2017, a total of 9,105 cases (incidence rate = 2.8 cases per 100,000 persons) were reported from the 50 states and the District of Columbia (DC). While this represents the lowest case count and incidence rate on record for the United States, the recent slowing of progress toward TB elimination is of concern.

TB Case Rates,* United States, 2017



Slide 3. TB Case Rates, United States, 2017. Thirty-nine reporting areas reported a rate ≤ 2.8 cases/100,000 population, the 2017 national average. Eleven states, the District of Columbia (DC) and New York City (NYC) reported a rate > 2.8 cases/100,000 population; these accounted for 59% of the national total in 2017.

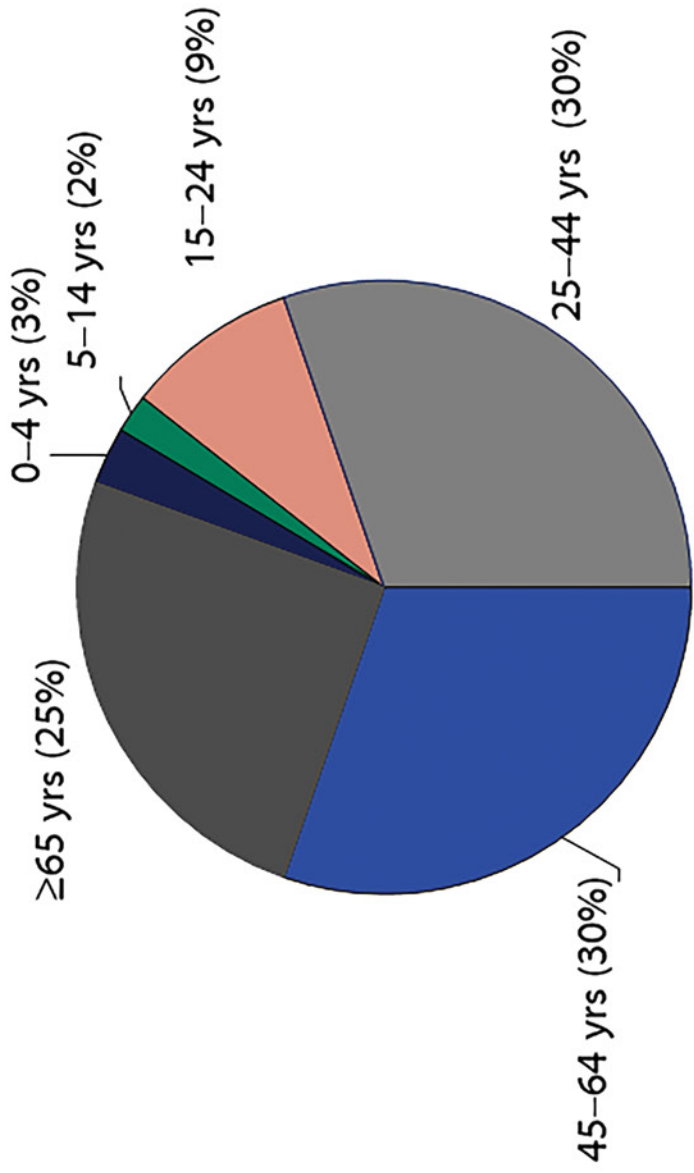
TB Case Rates* by Age Group, United States, 1993–2017



*Cases per 100,000 population

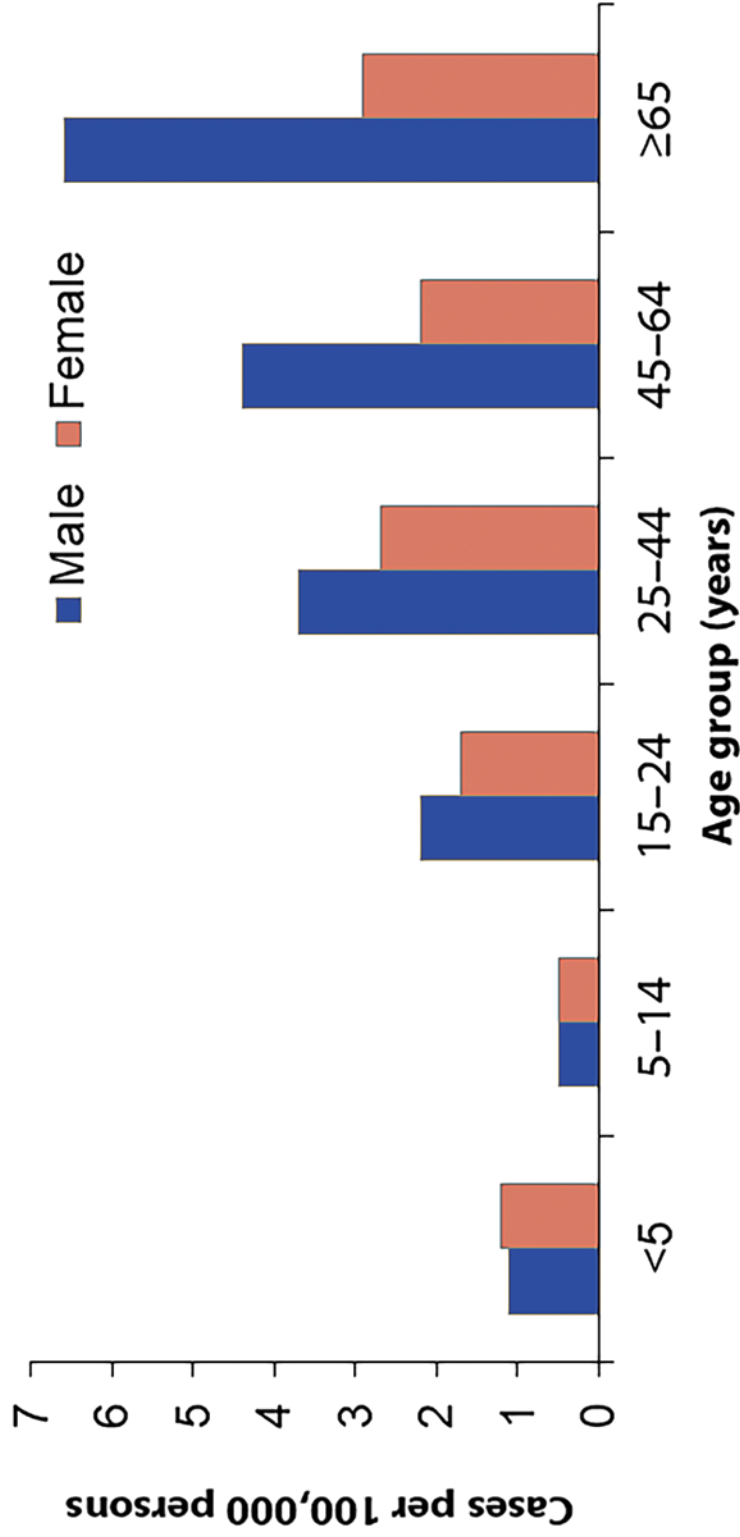
Slide 4. TB Case Rates by Age Group, United States, 1993–2017. During 2017, case rates in all age groups declined by >50% from their 1993 values: persons aged ≥65 years, from 17.7 cases/100,000 population in 1993 to 4.5 in 2017; persons aged 45–64 years, from 12.5 to 3.3; persons aged 25–44 years, from 11.6 to 3.2; persons aged 15–24 years, from 5.0 to 2.0; persons aged 5 to 14 years, from 1.7 to 0.5; and persons aged ≤4 years, from 5.2 to 1.1.

Reported TB Cases by Age Group, United States, 2017



Slide 5. Reported TB Cases by Age Group, United States, 2017. Three percent of TB cases were among children aged 0-4 years; 2% were among those aged 5-14 years; 9% were among persons aged 15-24 years; 30% were among adults aged 25-44 years; 30% were among adults aged 45-64 years; and 25% were among adults aged ≥65 years.

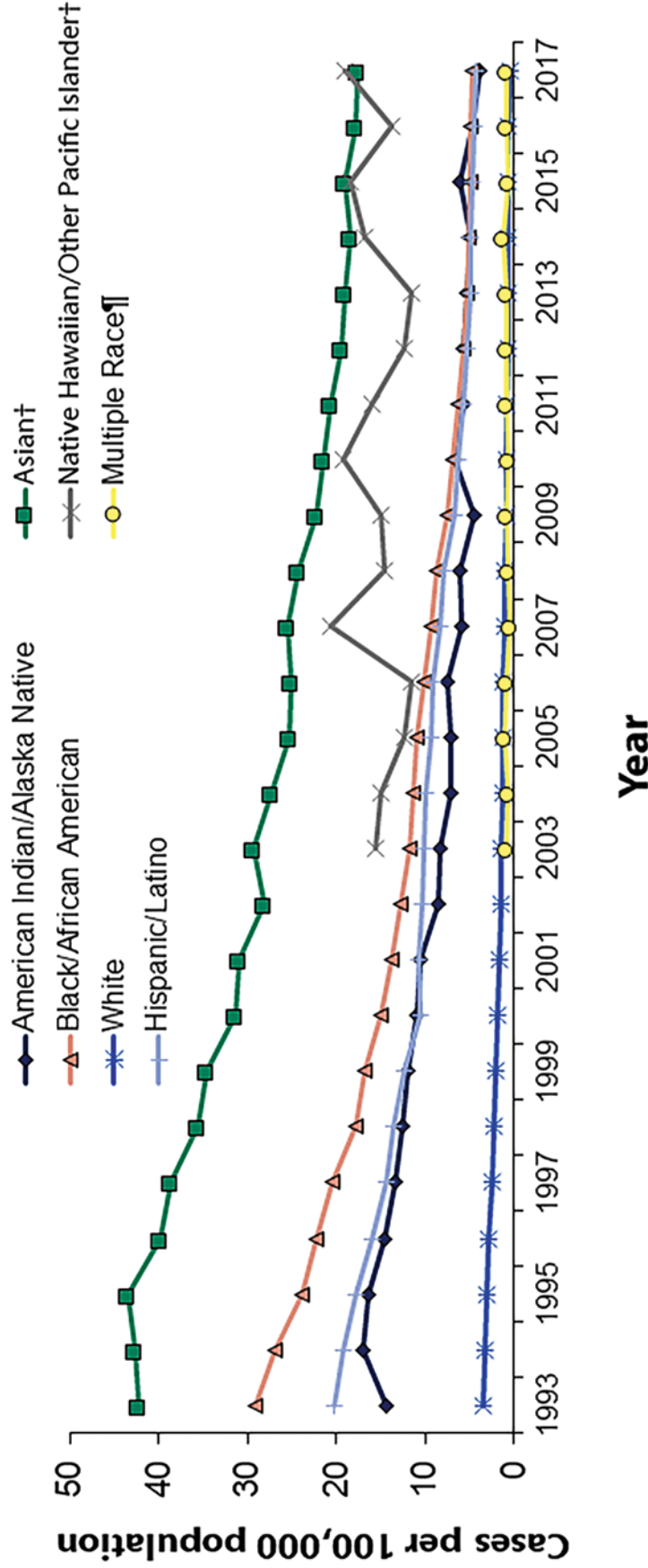
TB Case Rates by Age Group and Sex, United States, 2017*



*Cases per 100,000 population

Slide 6. TB Case Rates by Age Group and Sex, United States, 2017. Case rates tended to increase with age, ranging from <1 case/100,000 children aged 5–14 years to a high of 6.6 cases/100,000 men aged ≥65 years. As age increased, the case rate among men increased faster than women; the rates among men aged ≥45 years were approximately twice those among women of the same age.

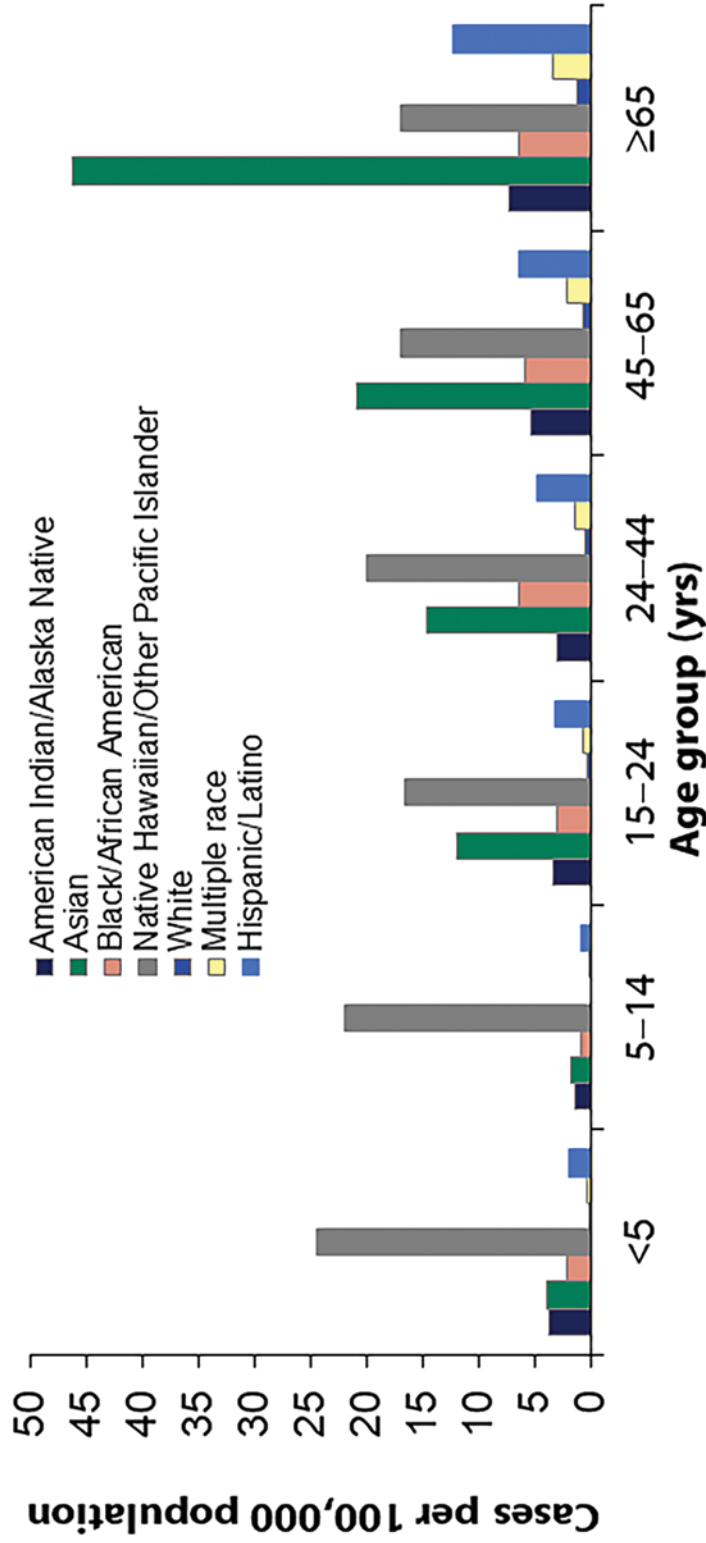
TB Case Rates by Race/Ethnicity* United States, 1993–2017



* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.
 † Asian race category reporting includes Pacific Islander from 1993–2002; Native Hawaiian/Other Pacific Islander race first reported separately in 2003.
 ‡ Multiple race rates first reported in 2003.

Slide 7. TB Case Rates by Race/Ethnicity, United States, 1993–2017. The rates among most race/ethnicity groups indicate a declining trend in TB since 1993. Asians consistently had the highest yearly TB rates, but their rates declined from 29.3 cases/100,000 population in 2003 to 17.7 in 2017, a 39.7% decrease. Rates also declined among the following racial/ethnic groups: non-Hispanic blacks/African Americans, from 11.7 in 2003 to 4.7 in 2017 (–60.0%); Hispanics, from 10.2 to 4.4 (–57.5%); non-Hispanic whites, from 1.4 to 0.5 (–61.9%); American Indians and Alaska Natives, from 8.3 to 3.9 (–53.0%). Among Native Hawaiian/Other Pacific Islanders the rate increased, from 15.7 to 19.1 (+21.6%). Because of the low TB case counts and population estimates for Native Hawaiians/Other Pacific Islanders in the United States, case rates for this group might appear high. (Percentage change are based on unrounded data.) Certain key factors likely contribute to the disproportionate burden of TB among minority groups. For persons who were born in countries where TB is common, TB disease can result from infection acquired in their country of origin. Unequal distribution of TB risk factors (e.g., human immunodeficiency virus [HIV] infection) also might contribute to increased exposure to TB or to an increased risk for experiencing TB after becoming infected with *Mycobacterium tuberculosis*.

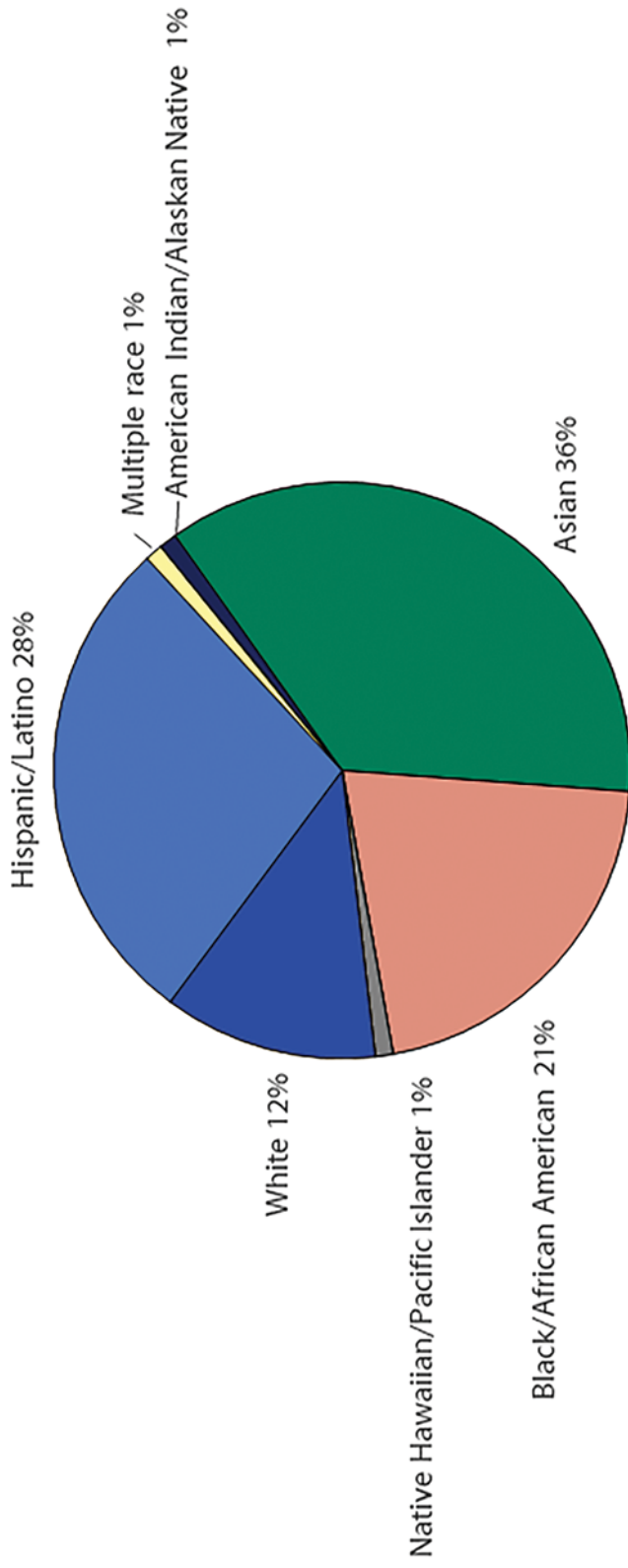
TB Case Rates by Age Group and Race/Ethnicity, United States, 2017*



* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.

Slide 8. TB Case Rates by Age Group and Race/Ethnicity, United States, 2017. After early childhood (ages 0–4 years), risk typically increased with age across all racial/ethnic groups, except among Native Hawaiians/Other Pacific Islanders, which did not indicate a trend. Rates were consistently higher among minority racial/ethnic groups than among non-Hispanic whites. Rates were the highest among Asians and Native Hawaiians/Other Pacific Islanders.

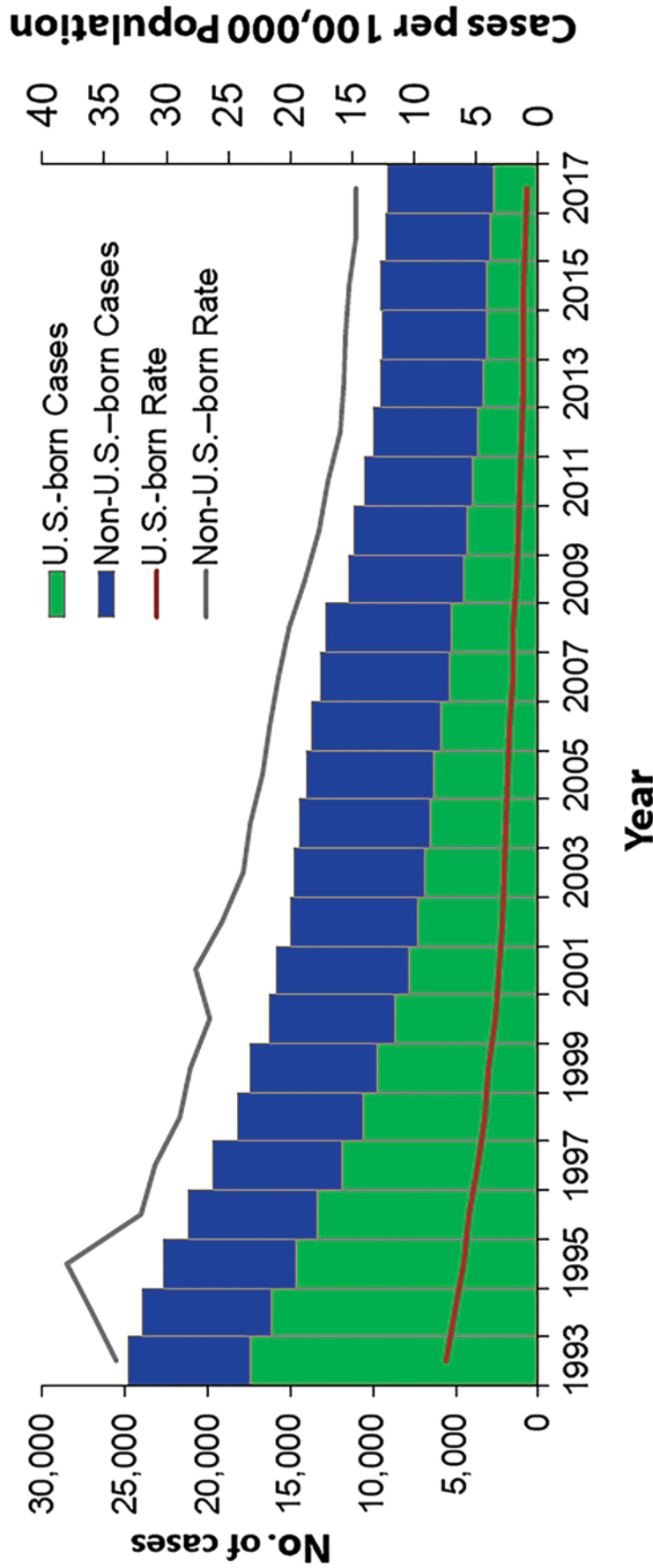
Reported TB Cases by Race/Ethnicity,* United States, 2017†



* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.
† Percentages are rounded.

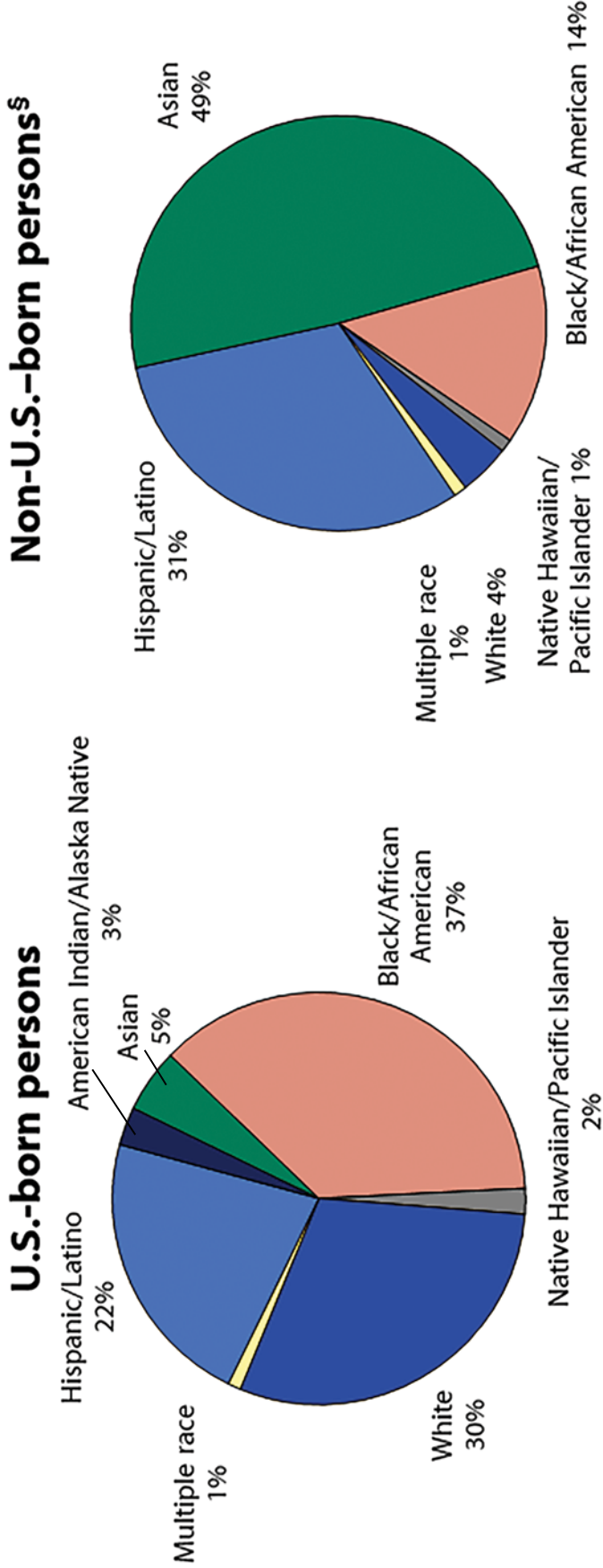
Slide 9. Reported TB Cases by Race/Ethnicity, United States, 2017. During 2017, approximately 88% of all reported TB cases occurred among racial/ethnic minorities: Asians, 36%; Hispanics, 28%; non-Hispanic blacks/African Americans, 21%; American Indians/Alaskan Natives, 1%; and Native Hawaiians/Other Pacific Islanders, 1%. In contrast, 12% of cases occurred among non-Hispanic whites. Persons reporting two or more races, not including persons of Hispanic or Latino ethnicity, accounted for 1% of all cases. Unknown or missing data on race accounted for <0.5% of all cases.

TB Cases and Rates Among U.S.-Born versus Non-U.S.-Born Persons, United States, 1993–2017



Slide 10. TB Cases and Rates Among U.S.-Born versus Non-U.S.-Born Persons, United States 1993–2017. The graph illustrates the increase in the percentage of cases occurring among non-U.S.-born persons during the study period, from 29% in 1993 to 70% in 2017. Overall, the number of cases among non-U.S.-born remained stable before 2009, with approximately 7,400–8,000 cases/year. During 2009, the number decreased to 6,996, and that trend continued through 2013, with the number of cases among non-U.S.-born persons decreasing to 6,222. In 2014 and 2015 the number of cases among non-U.S.-born persons increased to a high of 6,406 in 2015. However, in 2016, the number of cases decreased to 6,356 cases, yet increased again in 2017 to 6,384. Among U.S.-born persons the number of cases decreased from >17,000 in 1993 to 2,705 in 2017. The incidence rate for U.S.-born persons decreased from 7.4 in 1993 to 1.0 in 2017, but the incidence rate among non-U.S.-born persons is considerably higher, although it has also decreased from 34.0 in 1993 to 14.7 in 2017.

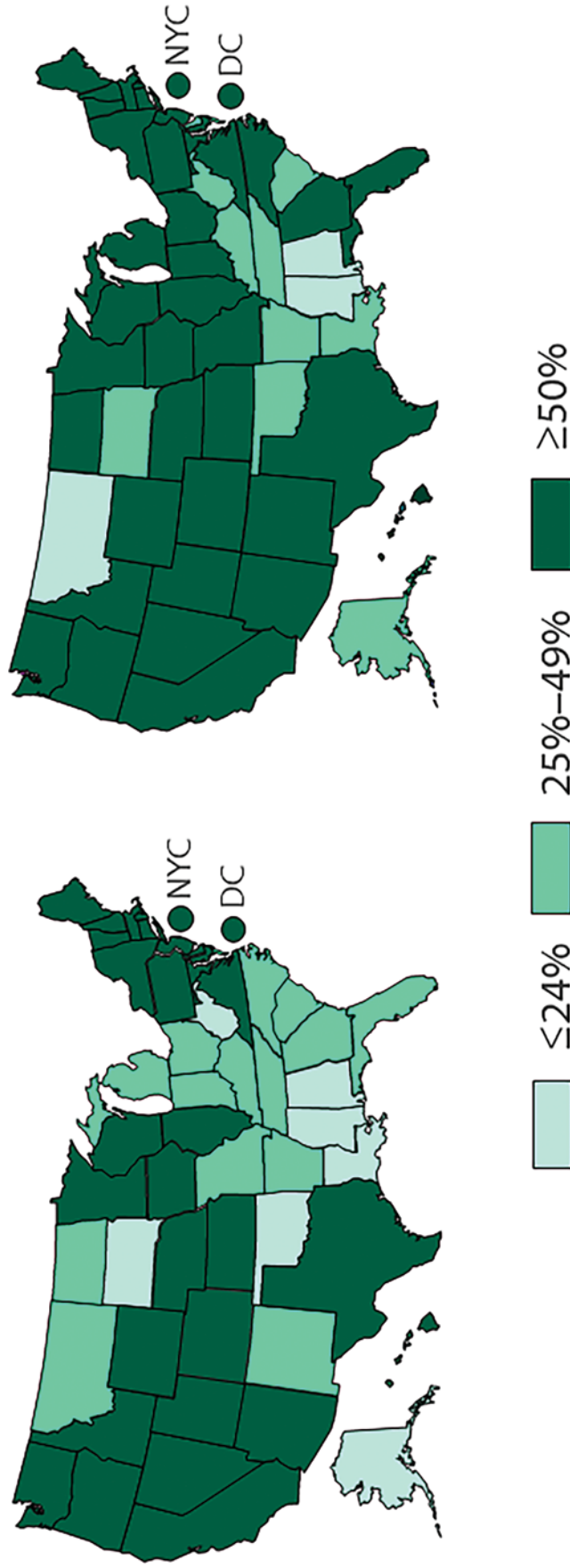
Reported TB Cases by Origin and Race/Ethnicity*, United States, 2017†



* All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.
 † Percentages are rounded.
 § American Indian/Alaska Native accounted for <1% of cases among non-U.S.-born persons and are not shown.

Slide 11. Reported TB Cases, by Origin and Race/Ethnicity, United States, 2017. Among U.S.-born persons with TB in 2017, 37% were non-Hispanic black/African American; 30% were non-Hispanic white, 22% were Hispanic/Latino; 5% were Asian; 3% were American Indian/Alaska Native; and 2% were Native Hawaiian/Other Pacific Islander. Persons reporting two or more races totaled 1% of cases among U.S.-born persons. Among non-U.S.-born persons with TB, 49% were Asian; 31% were Hispanic/Latino; 14% were non-Hispanic black/African American; 4% were non-Hispanic white; 1% were Native Hawaiian/Pacific Islander; and 1% were persons reporting two or more races, not including persons of Hispanic/Latino origin. Cases among American Indians/Alaska Natives constituted 0.03% of the cases among non-U.S.-born persons and are not included on the charts.

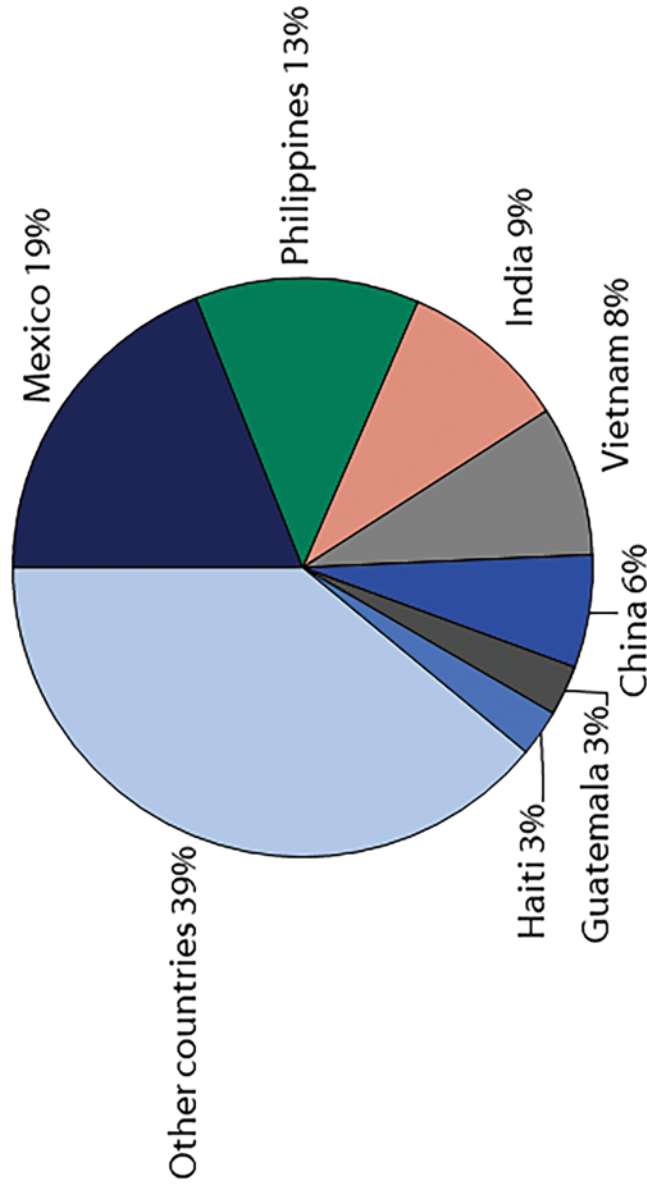
Percentage of Non-U.S.-Born Persons Among TB Cases, United States, 2007 and 2017



DC, District of Columbia
NYC, New York City (excluded from New York state)

Slide 12. Percentage of Non-U.S.-Born Persons Among TB Cases, United States, 2007 and 2017. The number of states with <25% of their TB cases occurring among non-U.S.-born persons decreased from 7 states in 2007 to 3 states in 2017. The number of states with ≥25%–49% of cases among non-U.S.-born persons decreased from 14 states in 2007 to 10 states in 2017. However, the number of states that had ≥50% of their cases among non-U.S.-born persons increased from 29 states, DC, and NYC in 2007 to 37 states, DC, and NYC in 2017.

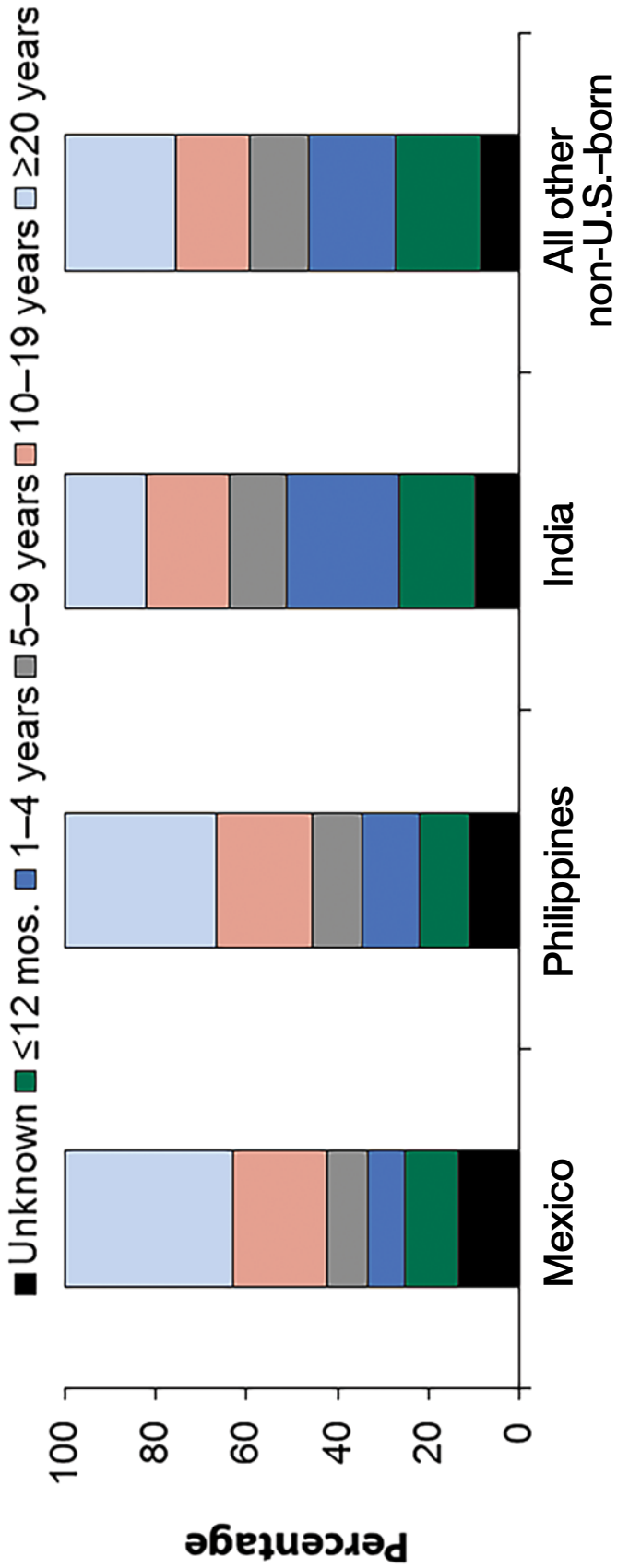
Countries of Birth Among Non-U.S.-Born Persons Reported with TB, United States, 2017



*Percentages are rounded.

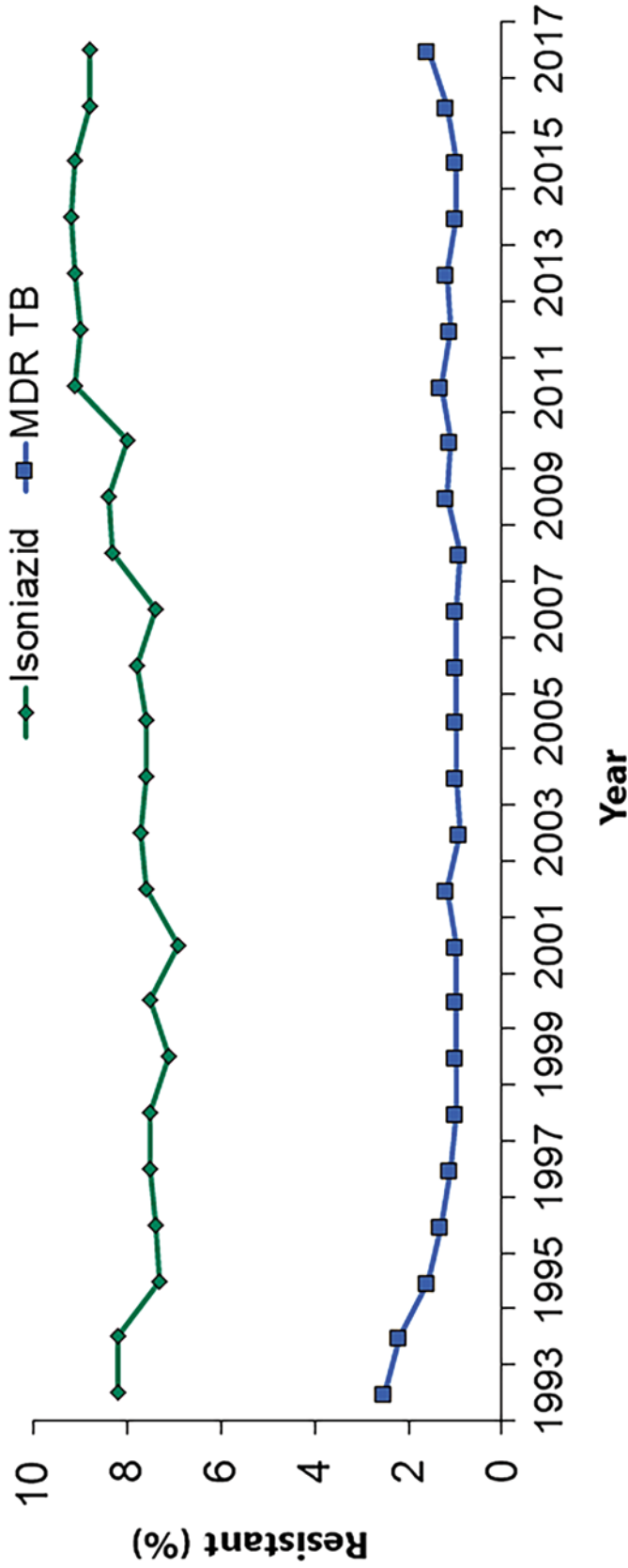
Slide 13. Countries of Birth Among Non-U.S.-Born Persons Reported with TB, United States, 2017. The top seven countries are displayed in the chart; those countries have remained relatively constant since 1986, when information regarding country of birth was first reported by all areas submitting reports to CDC. During 2017, the top seven countries accounted for 61% of all cases among non-U.S.-born persons, with Mexico accounting for 19%; the Philippines, 13%; India, 9%; Vietnam, 8%; China, 6%; Guatemala, 3%; and Haiti, 3%. Persons from 139 other countries each accounted for $\leq 2.5\%$ of the total, but altogether, accounted for 39% of non-U.S.-born persons reported with TB.

Percentage of Non-U.S.-Born Persons with TB, by Time of Residence in U.S. Before Diagnosis, 2017



Slide 14. Percentage of Non-U.S.-Born Persons with TB, by Time of Residence in U.S. Before Diagnosis, 2017. The chart indicates the distribution for the top three countries of birth (Mexico, the Philippines, and India). Among persons born in Mexico, 12.0% had been in the United States for <1 year, 8.1%, 1-4 years; 8.6%, 5-9 years; 21.0%, 10-19 years; and 36.9% for ≥20 years. Among persons born in the Philippines, 10.8% had been in the United States for <1 year; 12.5%, 1-4 years; 11.1%, 5-9 years; and 33.5%, ≥20 years. Among persons born in India, 16.7% had been in the United States for <1 year; 24.8%, 1-4 years; 12.5%, 5-9 years; 18.3%, 10-19 years; and 18.0%, ≥20 years. Values for unknown length of residence in the United States for these top three countries ranged from 9.7 to 13.4% for 2017. For all other non-U.S.-born persons, 18.8% had been in the United States for <1 year; 18.9%, 1-4 years; 13.2%, 5-9 years; 16.4%, 10-19 years; 24.3%, ≥20 years; and 8.4%, unknown length of residence. Overall, 16.3% had been in the United States for <1 year; 16.6%, 1-4 years; 12.0%, 5-9 years; 18.1%, 10-19 years; 27.2%, ≥20 years; and 9.8%, unknown length of residence.

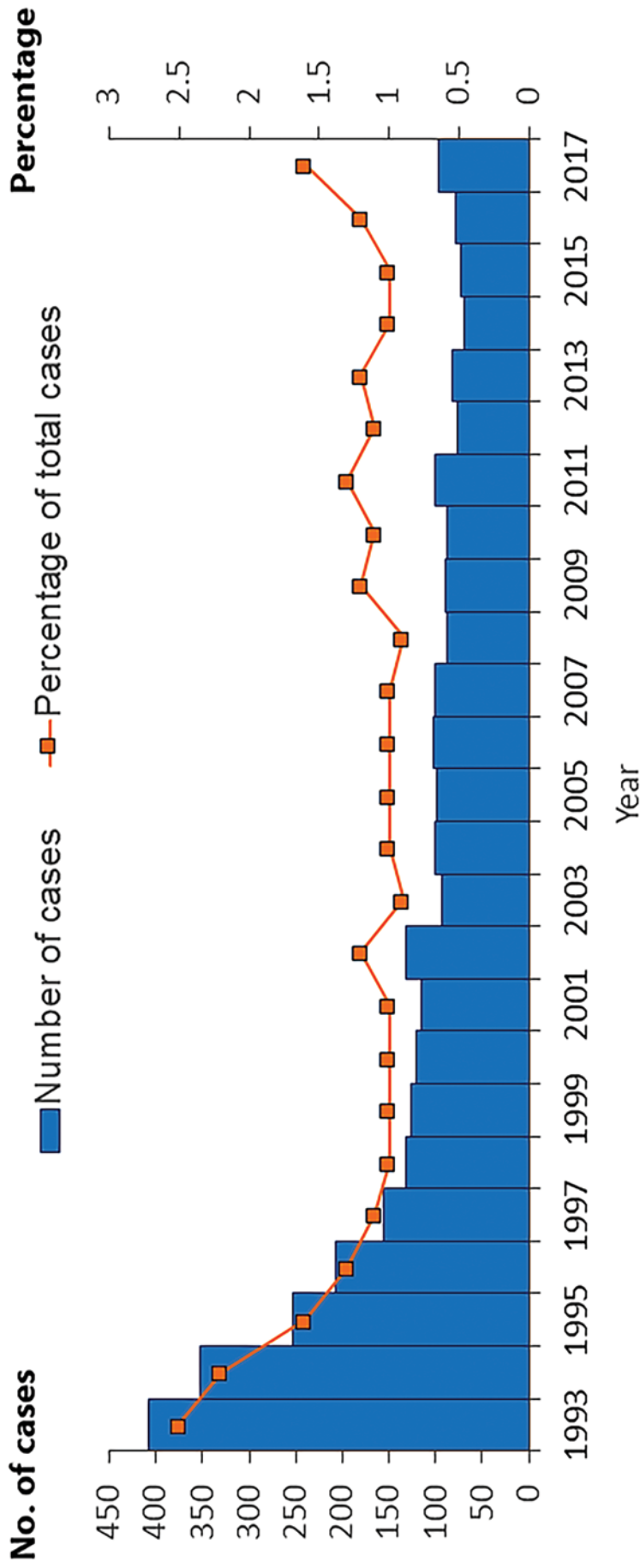
Primary Anti-TB Drug Resistance, United States, 1993–2017*



* Based on initial isolates from persons with no prior history of TB; multidrug-resistant TB (MDR TB) is defined as resistance to at least isoniazid and rifampin.

Slide 15. Primary Anti-TB Drug Resistance, United States, 1993–2017. The graph starts in 1993, the year in which the individual TB case reports submitted to the national surveillance system began collecting information regarding initial susceptibility test results for patients with culture-positive TB. Data were available for >87.1% of culture-positive cases for each year. Primary resistance was calculated by using data from persons with no reported prior TB episode. Resistance to at least isoniazid was 8.2% in 1993; however, by 2017, this had increased to 8.8%. Resistance to at least isoniazid and rifampin, known as multidrug-resistant TB (MDR TB), was 2.5% in 1993. The percent of primary MDR TB has remained approximately stable since it decreased to 1.0% in 1998. However, in 2017, the percent of primary MDR TB increased to 1.6%.

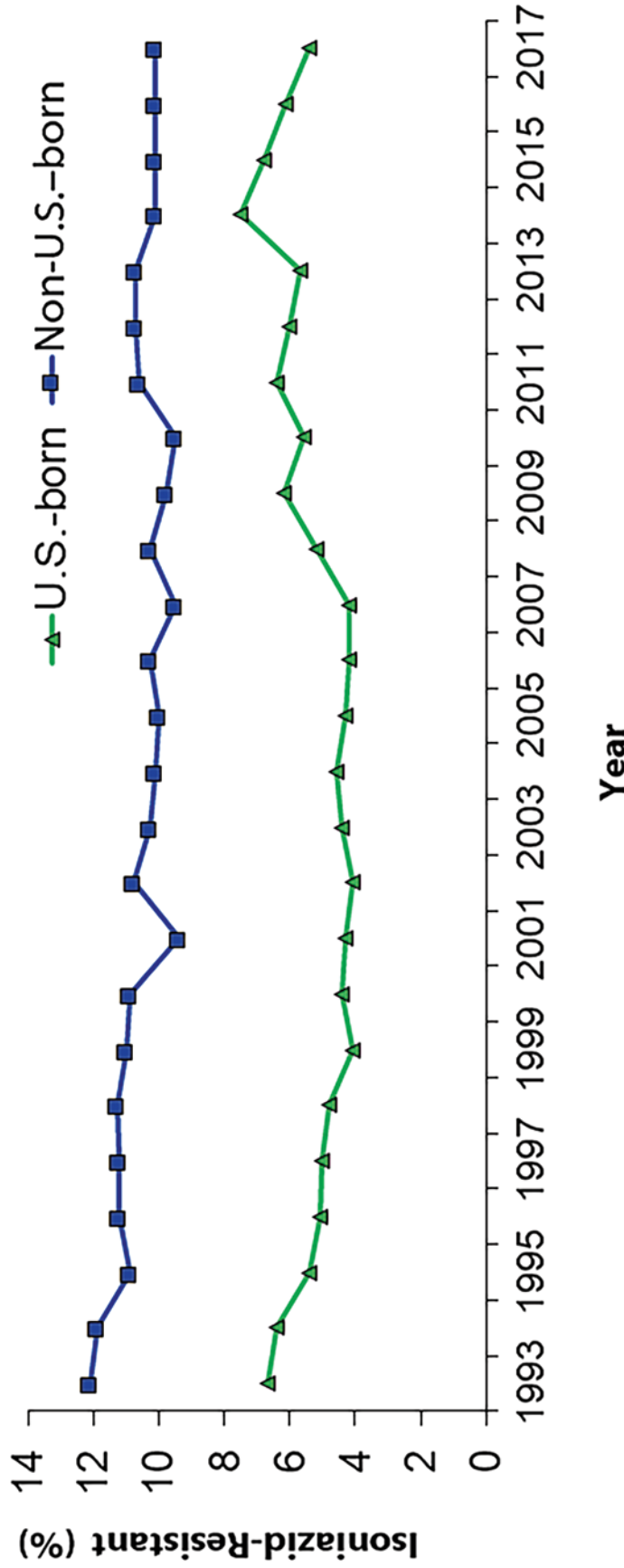
Primary MDR TB, United States, 1993–2017*



* Based on initial isolates from persons with no prior history of TB; multidrug-resistant TB (MDR TB) is defined as resistance to at least isoniazid and rifampin.

Slide 16. Primary MDR TB, United States, 1993–2017. This graph focuses on trends in primary multidrug-resistant TB (MDR TB), which is based on initial isolates from persons with no prior history of TB. The number of primary MDR-TB cases, represented by the bars, decreased steadily from 407 in 1993 to 115 in 2001, with a slight increase to 132 in 2002. Since then, the total number of primary MDR-TB cases has fluctuated from 70 to 103 cases, with 97 cases reported for 2017. Primary MDR TB, indicated by the trend line, decreased from 2.5% in 1993 to approximately 1.0% in 1998 and had changed little until 2017 when it increased to 1.6%.

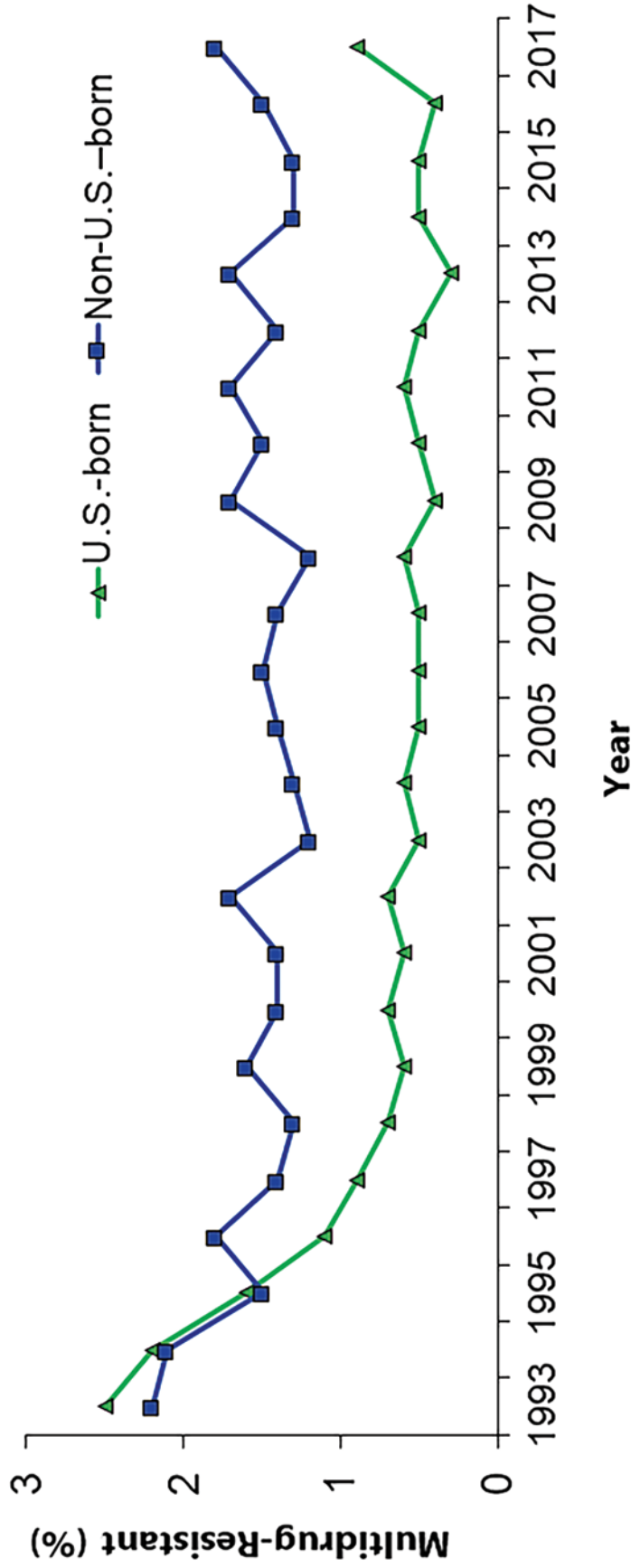
Primary Isoniazid Resistance Among U.S.-Born versus Non-U.S.-Born Persons, United States, 1993–2017*



* Based on initial isolates from persons with no prior history of TB.

Slide 17. Primary Isoniazid Resistance Among U.S.-Born versus Non-U.S.-Born Persons, United States, 1993–2017. On the basis of initial isolates from persons with no prior history of TB, the percentage of isoniazid resistance has remained higher among non-U.S.-born persons than among U.S.-born persons for all years measured. Among non-U.S.-born persons, the percentage declined from 12.1% in 1993 to 10.1% in 2017. In U.S.-born persons, the percentage decreased from 6.7% in 1993 to 4.2% in 2007. From 2008 to 2016 the percentage of cases ranged from 5.2% in 2008 to a high of 7.5% in 2014. During 2017, the percentage of primary isoniazid resistance among U.S.-born cases was 5.4%.

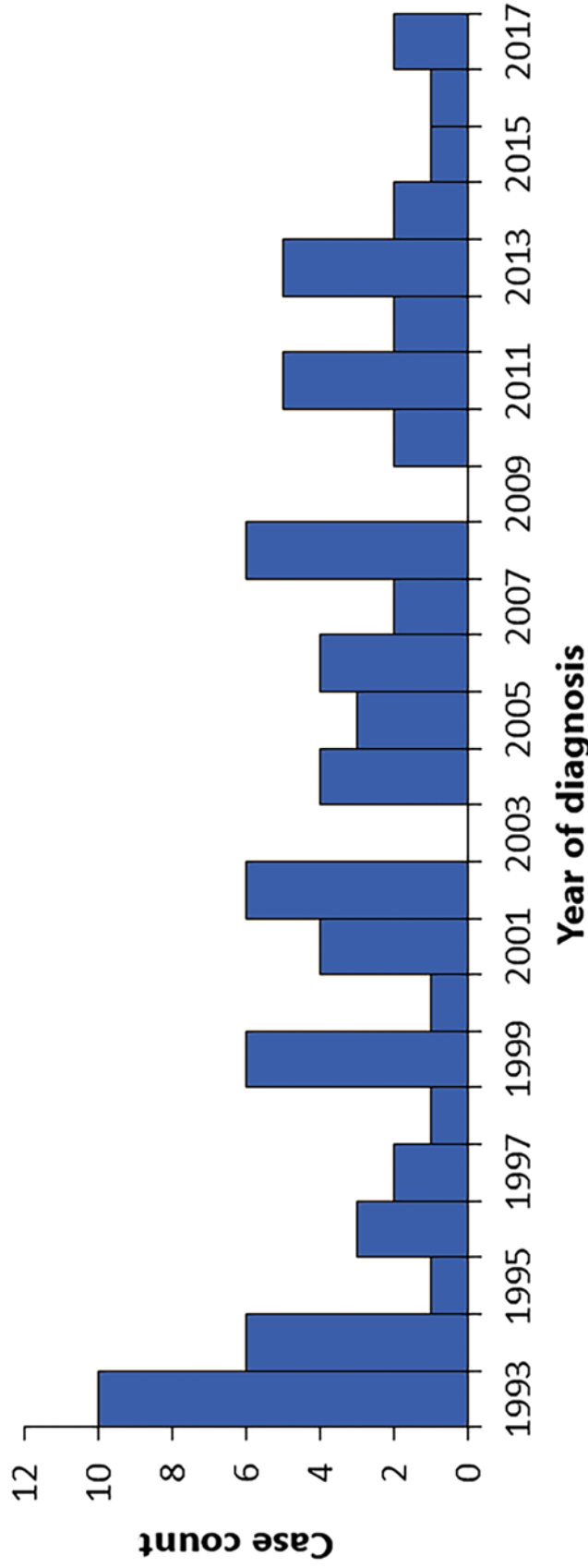
Primary MDR TB Among U.S.-Born versus Non-U.S.-Born Persons, United States, 1993–2017*



* Based on initial isolates from persons with no prior history of TB; multidrug-resistant TB (MDR TB) is defined as resistance to at least isoniazid and rifampin.

Slide 18. Primary MDR TB in U.S.-born versus Non-U.S.-born Persons, United States, 1993–2017. This graph highlights primary MDR TB in U.S.-born versus non-U.S.-born persons. The percentage with primary MDR TB has declined among both groups since 1993, although the decline in the U.S.-born has been greater. The proportion of primary MDR TB cases in the United States that are attributed to non-U.S.-born persons increased from approximately 25% in 1993 to 85% in 2017 (not shown on slide). Among the U.S.-born, the percentage with primary MDR TB has been less than 1% since 1997 and was 0.9% in 2017. The percentage among non-U.S.-born persons has fluctuated year by year, although it has remained between 1.2 and 1.8% since 1995. In 2017, the percentage of primary MDR TB among non-U.S.-born persons was 1.8%.

XDR TB* Case Count, Defined on Initial DST,† by Year, 1993–2017§



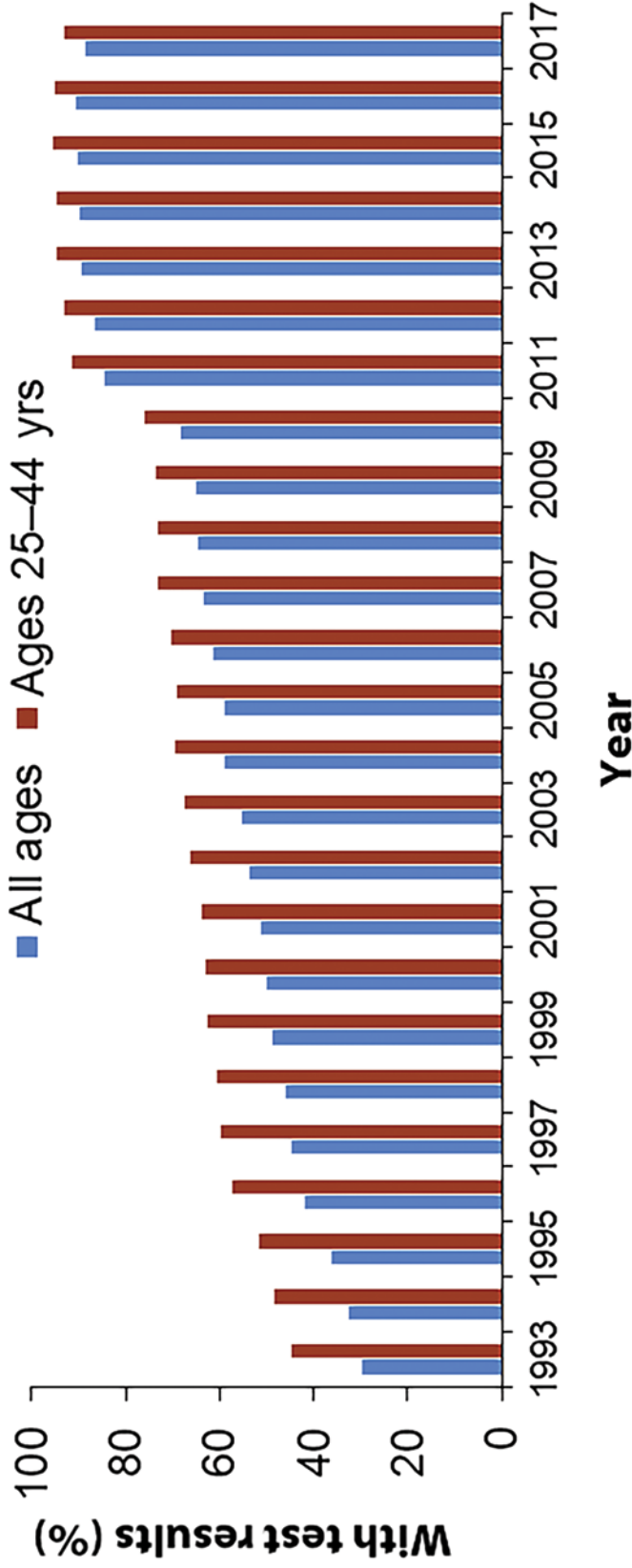
* XDR TB, extensively drug-resistant TB.

† DST, drug susceptibility test.

§ XDR TB is defined as resistance to isoniazid and rifampin, plus resistance to any fluoroquinolone and at least one of three injectable second-line anti-TB drugs.

Slide 19. XDR TB Case Count, Defined on Initial DST, United States, 1993–2017. Extensively drug-resistant TB (XDR TB) at first drug susceptibility test (DST) is defined as resistance to isoniazid and rifampin, plus resistance to any fluoroquinolone and at least one of three injectable second-line anti-TB drugs. Two cases of XDR TB were reported in 2017, and the most reported in a single year was 10 in 1993. No cases were reported in 2003 and 2009, and no apparent trend exists in the number of cases over time.

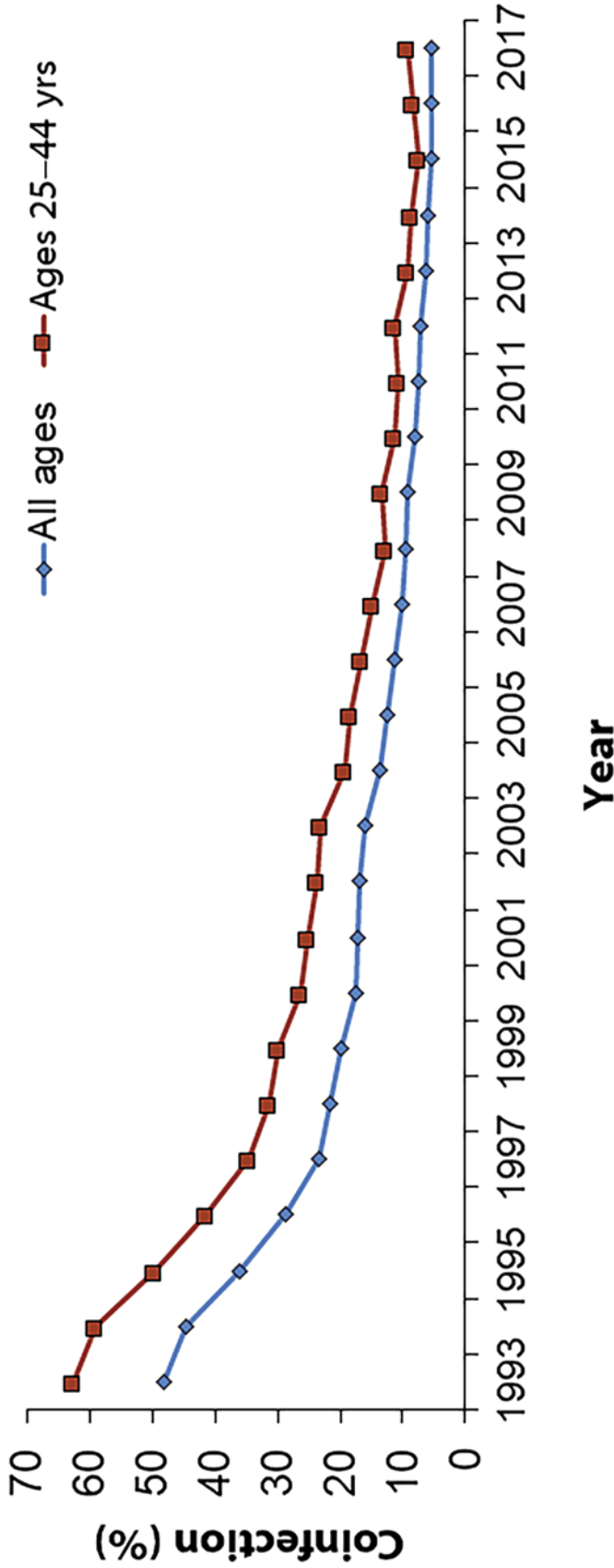
Reporting of HIV Test Results Among Persons with TB, by Age Group, United States, 1993–2017*



* Includes persons with positive, negative, or indeterminate human immunodeficiency virus (HIV) test results and persons from California with co-diagnosis of TB and acquired immunodeficiency syndrome (AIDS) (co-diagnosis with AIDS in California was only for a period ending in 2004). Rhode Island did not report HIV test results for years 1993–1997. HIV test results for Vermont are not included for years 2007–2013. HIV test results for California are not included for years 2005–2010.

Slide 20. Reporting of HIV Test Results in Persons with TB by Age Group, United States, 1993–2017. This slide shows the completeness of reporting of HIV test results in persons with TB by age group from 1993 through 2017. The percentage of TB patients for whom test results were reported increased from 30% among all ages in 1993 to 89% in 2017. Among adults 25–44 years of age, the percentage increased from 45% in 1993 to 93% in 2017. California began reporting HIV test results to CDC in 2011; this accounts for the substantial percentage increase for that year.

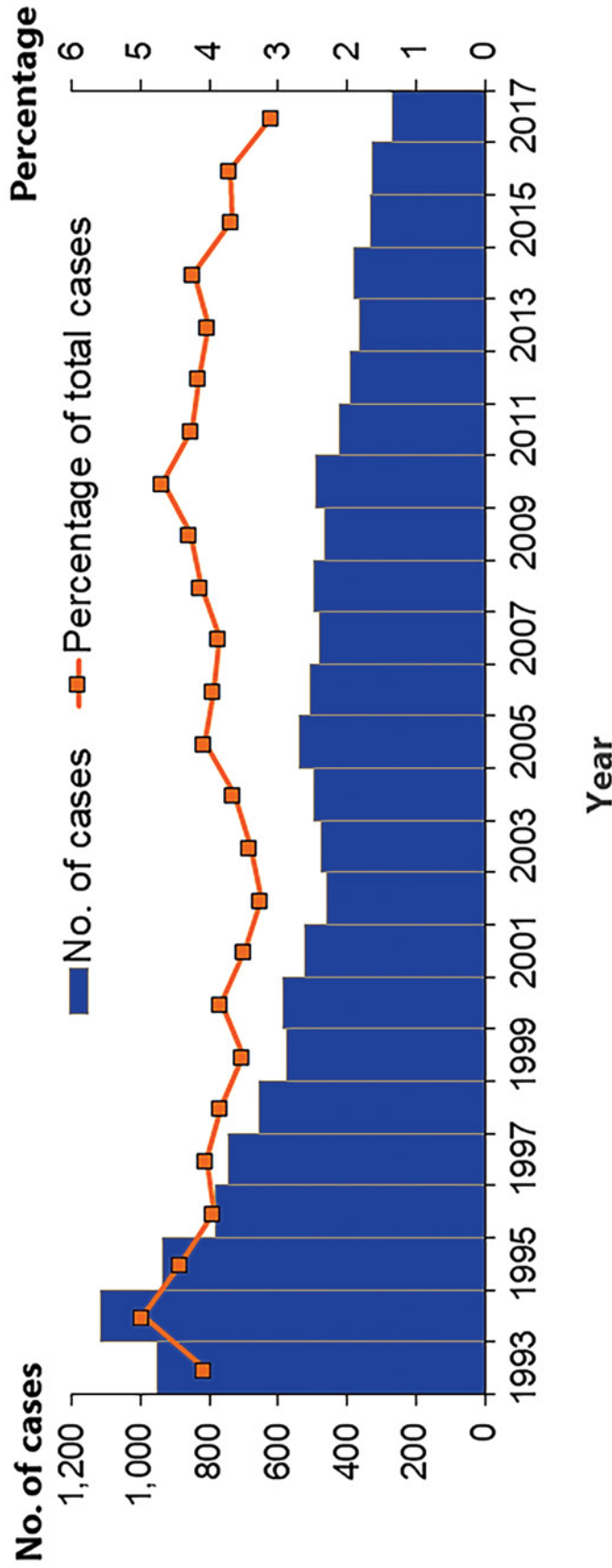
Estimated HIV Coinfection Among Persons Reported with TB, United States, 1993–2017*



* Minimum estimates are based on reported HIV-positive status among all TB patients in the age group.

Slide 21. Estimated HIV Coinfection in Persons Reported with TB, United States, 1993–2017. This slide provides minimum estimates of HIV coinfection among persons reported with TB from 1993 through 2017. Since the addition of the request for HIV status to the individual TB case report in 1993, incomplete reporting has provided a challenge to calculating reliable estimates, although reporting improved substantially beginning in 2011. Results from the cross-matching of TB and AIDS registries have been used to supplement reported HIV test results. For all ages, the estimated percentage of HIV coinfection in persons who reported HIV testing (positive, negative, or indeterminate test results) with TB decreased from 48% to 6% overall from 1993–2017, and from 63% to 9% among persons 25 to 44 years of age during this period.

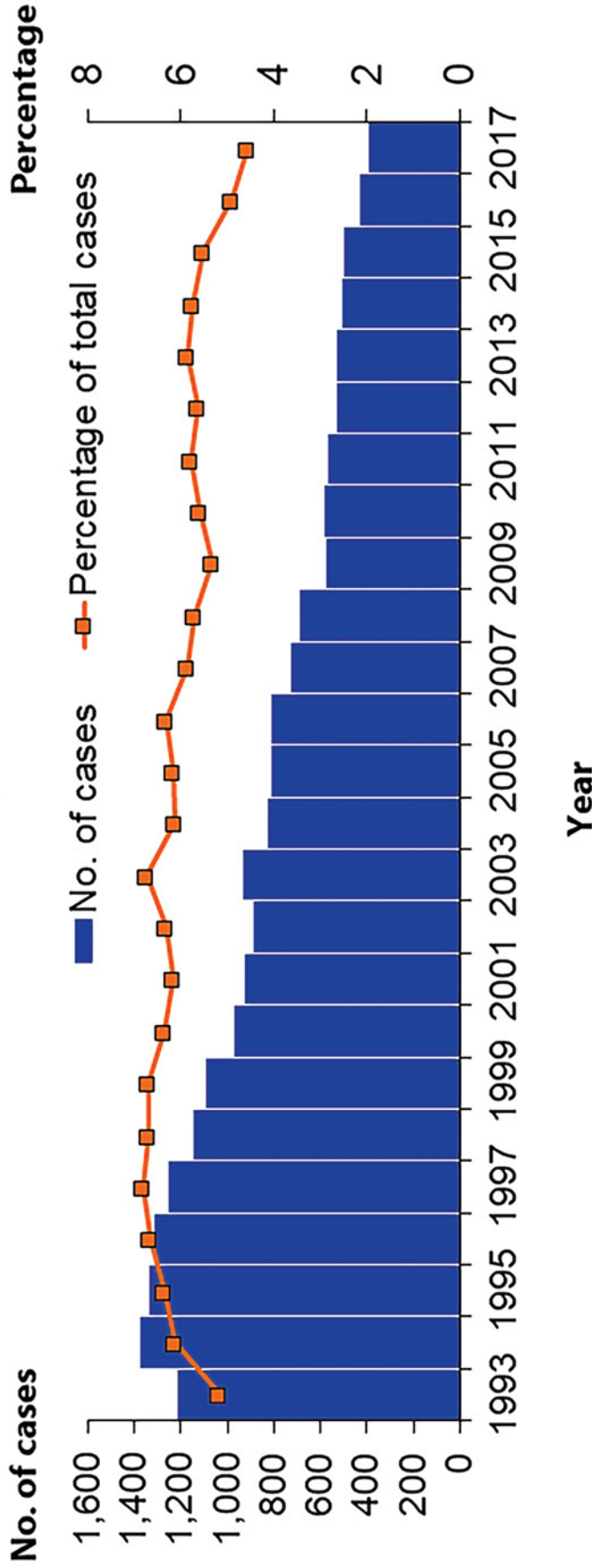
TB Cases Among Persons Ages ≥15 Years Residing in Correctional Facilities, United States, 1993–2017*



* Resident of correctional facility at time of TB diagnosis.

Slide 22. TB Cases by Residence in Correctional Facilities, Ages ≥15, United States, 1993-2017. This graph highlights the number of cases among persons who were residents of any type of correctional facility at the time of TB diagnosis. Cases shown occurred in persons 15 years of age or older. The number of cases among persons residing in a correctional facility has decreased from a high of 1,117 cases in 1994 to 268 cases in 2017. Between the years 2000 and 2010, the number of cases residing in a correctional facility ranged between the mid to high-400s and high-500s; 2011 was the first year to drop below this range to 423 cases. Of total cases, the percentage of cases among persons residing in a correctional facility has ranged from 5.0% in 1994 to 3.1% in 2017. The 1990s saw a decreasing trend in percentage until 2002. Since 2002, there was an increasing trend in percentage dropped below 4.0% again. In 2017, the percentage of total cases was 3.1%.

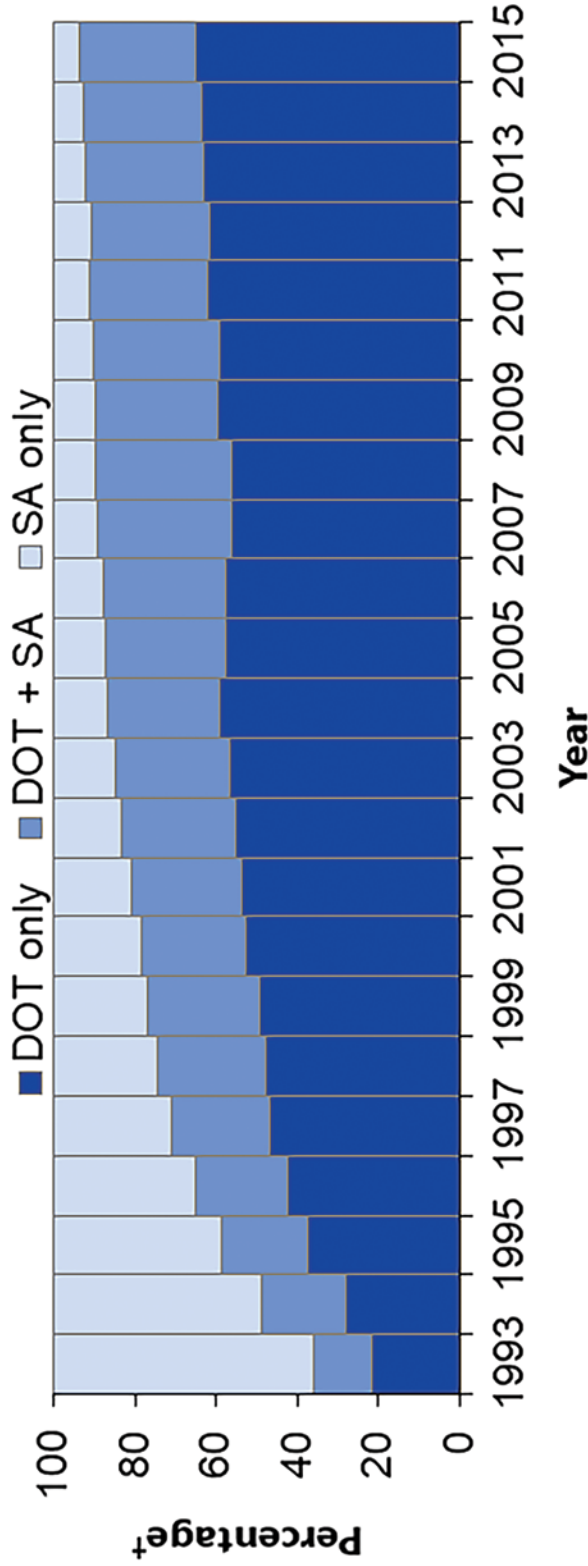
TB Cases Reported Among Homeless Persons During the 12 Months Before Diagnosis, Ages ≥15 Years, United States, 1993–2017*



* Homeless during the 12 months before TB diagnosis.

Slide 23. TB Cases by Homeless Status, Ages ≥15, United States, 1993–2017. This graph highlights the status of cases that occurred among persons experiencing homelessness within twelve months before TB diagnosis during 1993–2017. Cases shown occurred in persons 15 years of age or older. The number of cases among persons experiencing homelessness has decreased from a high of 1,379 cases in 1994 to 397 in 2017. This category has seen an overall decrease in cases since 1994, with the exception of the slight increases observed in years 2003, 2006, and 2010. Of total cases, the percentages of cases occurring in persons experiencing homelessness have declined overall from 5.2% in 1993 to 4.6% in 2017.

Mode of Treatment Administration Among Persons Reported with TB, United States, 1993–2015*



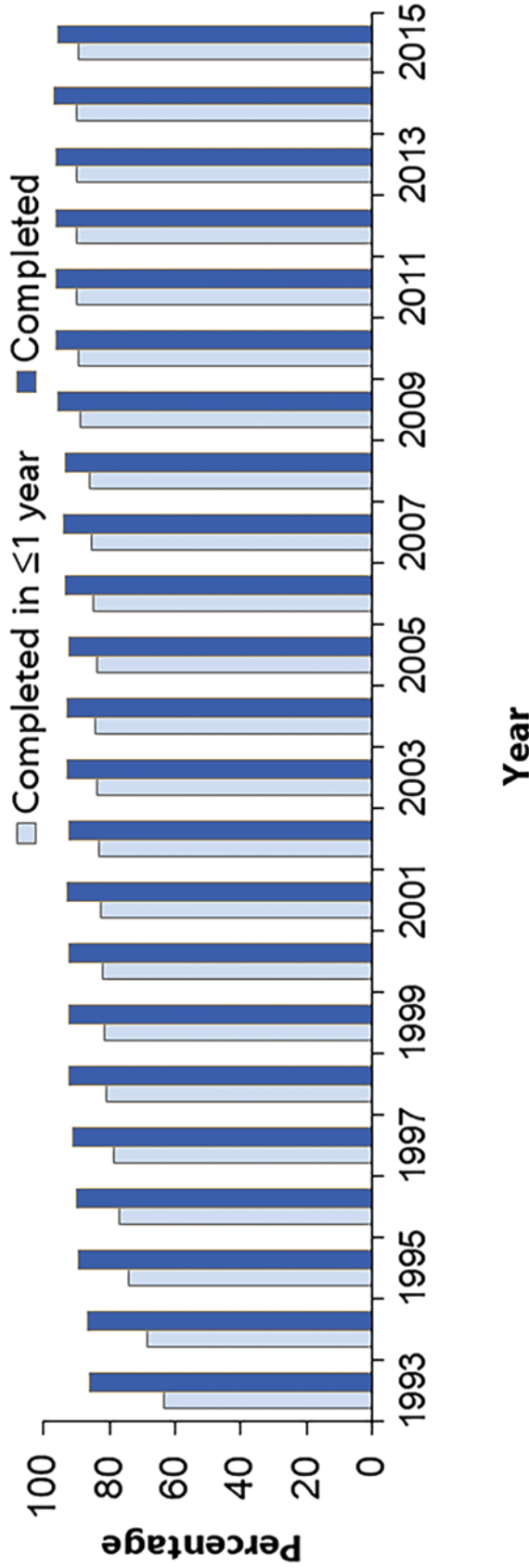
DOT, directly observed therapy; SA, self-administered therapy.

* Data available through 2015 only.

† Percentage of total cases among persons alive at diagnosis, with an initial regimen of one or more drugs prescribed and excluding cases with unknown mode of treatment administration.

Slide 24. Mode of Treatment Administration in Persons Reported with TB, United States, 1993–2015. In 1993, the reporting areas began providing information about mode of treatment administration on the individual TB case report form. Treatment administered as only directly observed therapy (DOT) increased from 21.7% in 1993 to 65.1% in 2015, the latest year with available data. The proportion of patients who received at least some portion of their treatment as DOT (based on combining the percentage of patients who received only DOT and the percentage for whom some portion was self-administered) was 93.6% in 2015.

Completion of TB Treatment Therapy, United States, 1993–2015*

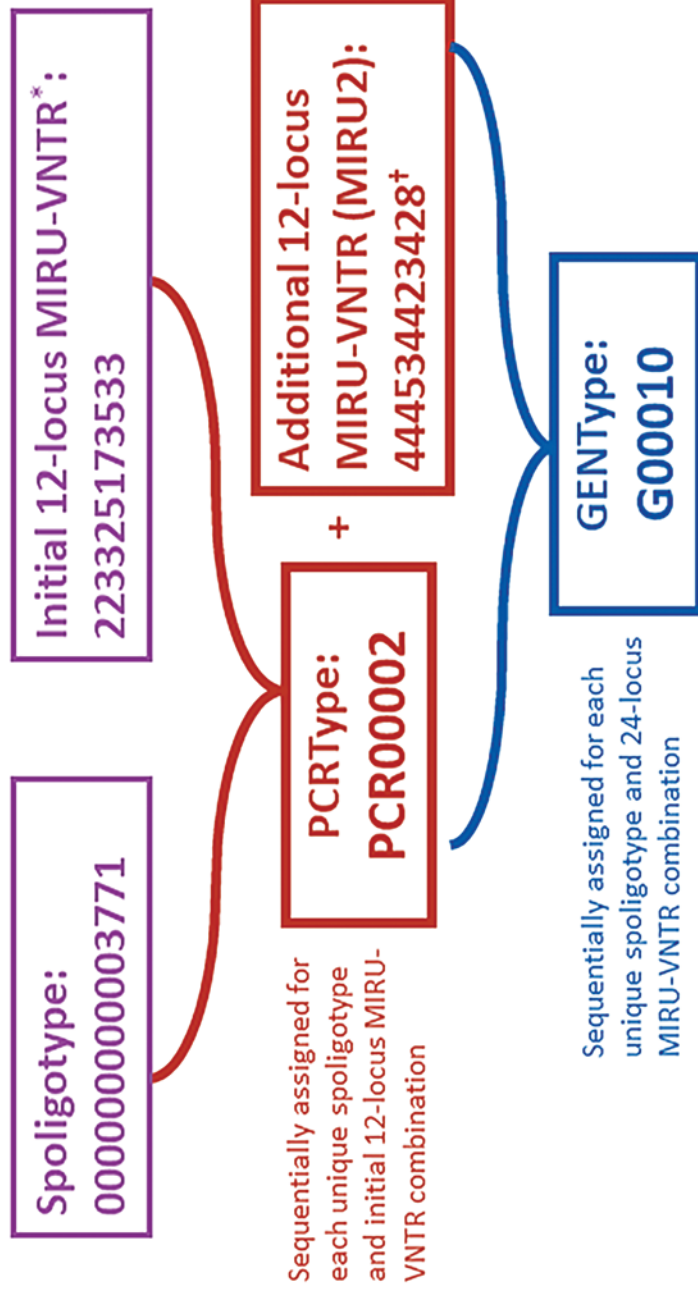


* Data available through 2015 only.

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, meningial 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.

Slide 25. Completion of TB Therapy, United States, 1993–2015. The reporting areas began providing information on completion of therapy in 1993 through the individual TB case report form. The calculations exclude persons with initial isolate rifampin resistant, or patient with bone and joint disease, meningial disease or disease of the central nervous system, or pediatric patient (age <15) 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. Overall completion of therapy had remained at approximately 92–93% from 1998 through 2008, but increased to 95–97% from 2009 to 2015. In 2015, the latest year with available data, completion of therapy was 96%. Completion in 1 year or less increased from 63% in 1993 to 90% in 2015. The current DHHS Healthy People 2020 objective is completion of therapy in 1 year or less in 93% of patients. CDC is working with state and local health departments to determine and evaluate reasons for apparently delayed completion of therapy, which may vary by jurisdiction.

Definition for Tuberculosis Genotyping in the United States

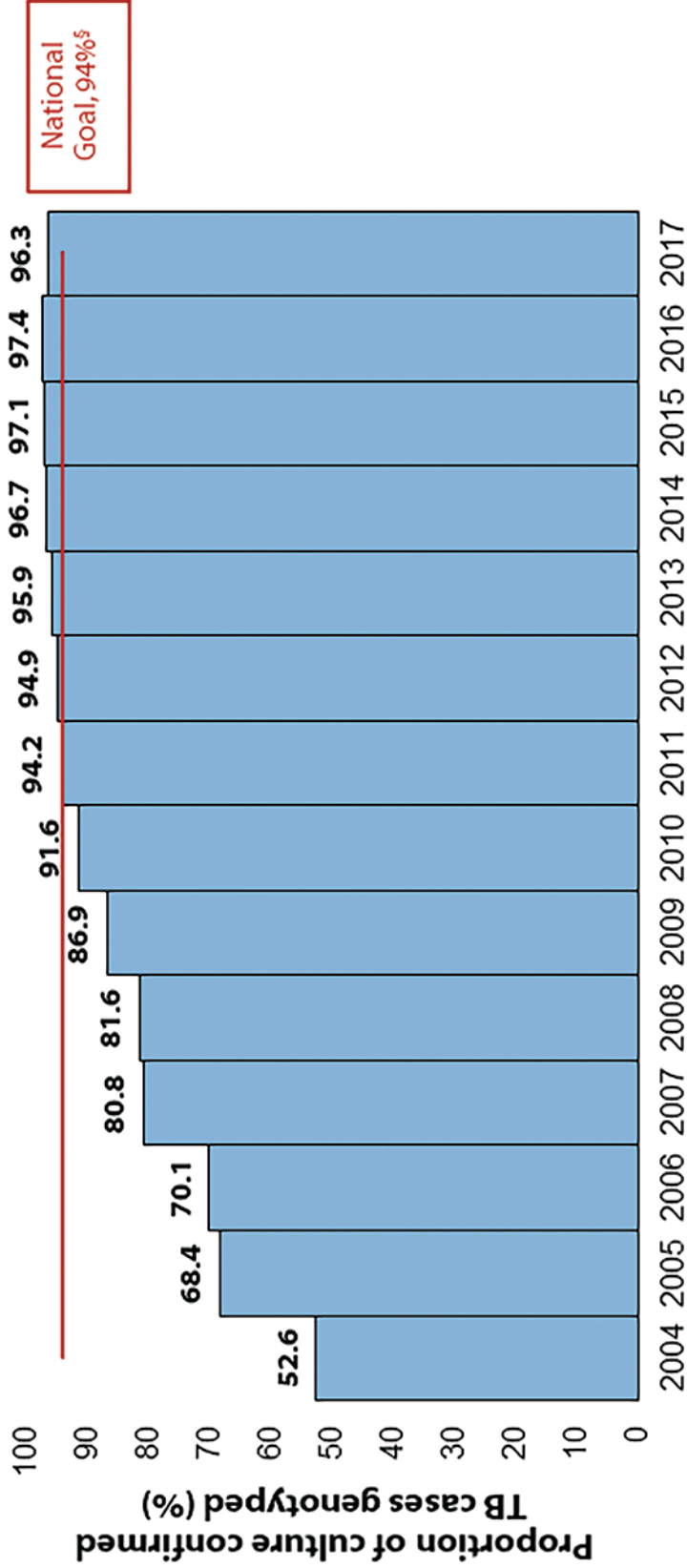


* Mycobacterial interspersed repetitive unit-variable number tandem repeat.

† The complete set of 24 loci is referred to as 24-locus MIRU-VNTR and is used for GENType designation for genotype in the United States.

Slide 26. Definition for Tuberculosis Genotyping in the United States. This slide shows the schematic for sequential assignment of unique spoligotypes and initial 12-locus MIRU-VNTR combination or 24-locus MIRU-VNTR combination.

National Tuberculosis Genotyping Surveillance Coverage* by Year: United States†, 2004–2017



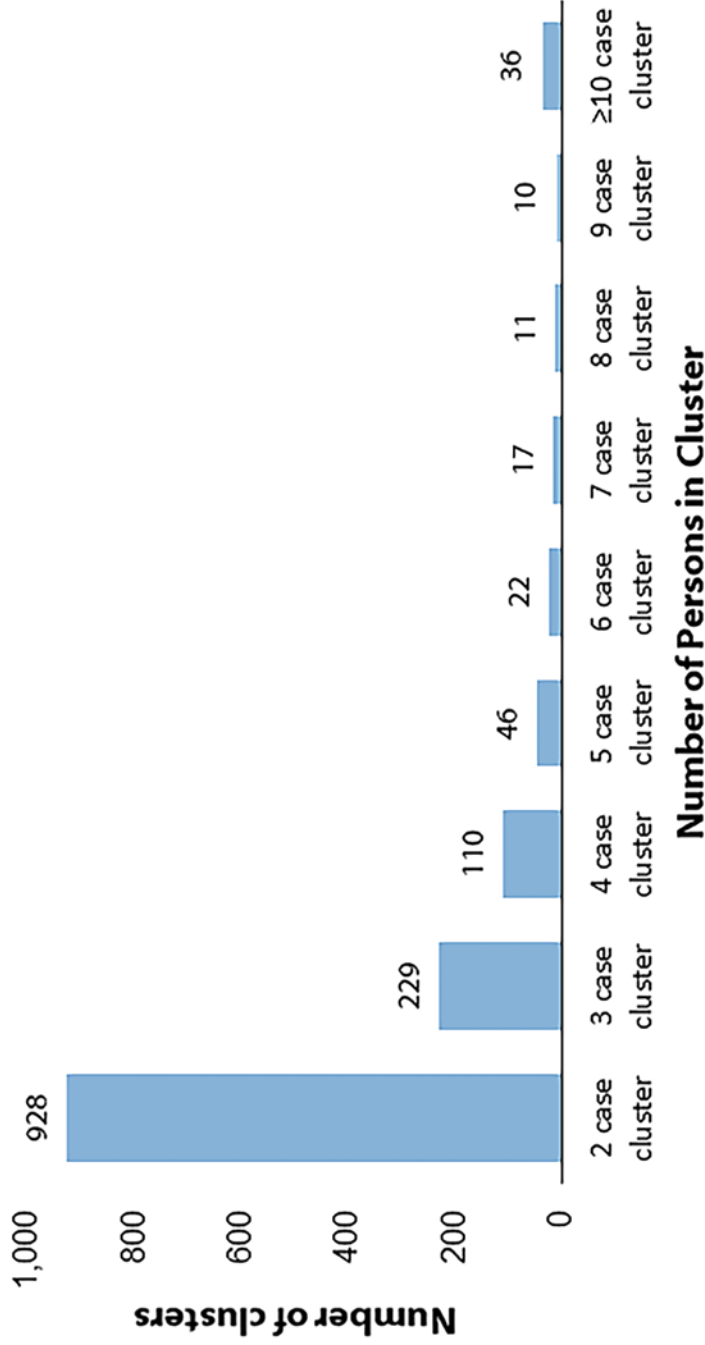
* The proportion of positive cultures with at least one genotyped isolate.

† Includes 50 states and the District of Columbia.

§ For the year 2020, the national goal for TB genotyping surveillance coverage will change to 100%.

Slide 27. National Tuberculosis Genotyping Surveillance Coverage by Year, United States, 2004–2017. This slide shows the increase in genotyping surveillance coverage from 2004 to 2017. In 2004, the proportion of culture confirmed TB cases with at least one genotyped isolate was 52.6%; in 2017 it was 96.3%. The national goal for genotyping surveillance coverage is 94.0%.

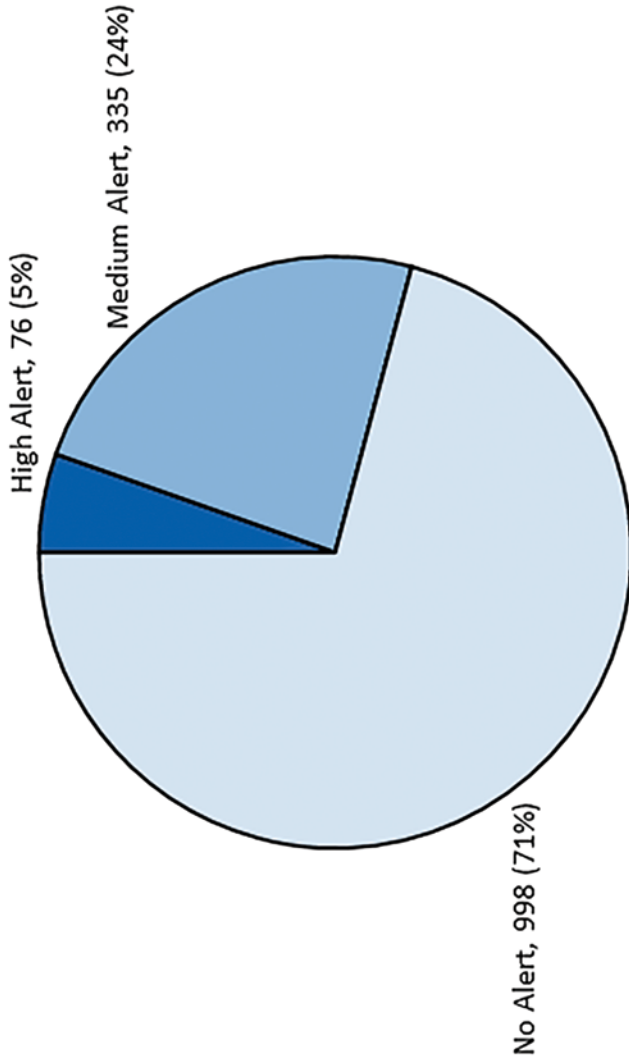
Number of County-based Tuberculosis Genotype Clusters* by Cluster Size, United States, 2015–2017



*Genotype cluster is defined as two or more cases with matching spoligotype and 24-locus MIRU-VNTR (GENType) within a county during the specified 3-year time period.

Slide 28. Number of County-based Tuberculosis Genotype Clusters by Cluster Size, United States, 2015–2017. This slide shows the number of county-based TB genotype clusters by the size of the clusters; a genotype cluster is defined as two or more cases with matching spoligotype and 24-locus MIRU-VNTR (GENType) within a county during the specified three year time period. In the 2015–2017 three year time period, there were 928 two-case clusters, 229 three-case clusters, 110 four-case clusters, 46 five-case clusters, 22 six-case clusters, 17 seven-case clusters, 11 eight-case clusters, 10 nine-case clusters, and 36 case clusters that were greater or equal to 10 in size.

Tuberculosis Genotype Clusters by TB GIMS* Alert Levels†, United States, 2015–2017



*Tuberculosis Genotyping Information Management System

†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; TB GIMS generates alert level notifications based on this statistic: “No alert” is indicated if LLR is between 0 – <5, “medium” is for LLR of 5 – <10 and “high” alert is for clusters with LLR ≥ 10.

Slide 29. Tuberculosis Genotype Clusters by TB GIMS Alert Levels, United States, 2015–2017. This slide shows a chart with percentages of genotype clusters by alert level. 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; TB GIMS generates alert level notifications based on this statistic: “No alert” is indicated if LLR is between 0 – <5, “medium” is for LLR of 5 – <10 and “high” alert is for clusters with LLR ≥ 10. In the 2015–2017 three year time period, high alerts made up 5% of the total, medium alerts were 24%, and no alert were 71%.

Surveillance Slide 30

Division of Tuberculosis Elimination

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Centers for Disease Control and Prevention
1600 Clifton Road NE
US 12-4
Atlanta, GA 30329
Phone: 404-639-8120
Internet Address: <http://www.cdc.gov/tb/>

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



Slide 30. (final slide). For more information, please contact Division of Tuberculosis Elimination at <http://www.cdc.gov/tb/>.

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Appendices

Appendix A. Tuberculosis (TB) Case Definition for Public Health Surveillance (Revised May 13, 2009)

Clinical Description

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

Clinical Case Definition

A case that meets **all** of the following criteria:

- A positive tuberculin skin test result or positive interferon gamma release assay for *M. tuberculosis*.
- Other signs and symptoms compatible with TB (e.g., abnormal chest radiograph, abnormal chest computerized tomography scan or other 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 from a clinical specimen,*
- or
- Demonstration of *M. tuberculosis* complex from a clinical specimen by nucleic acid amplification test,†
- or
- Demonstration of acid-fast bacilli in a clinical specimen when a culture has not been or cannot be obtained or is falsely negative or contaminated.

Case Classification

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

Comment: A case should not be counted twice within any consecutive 12-month period. However, a case occurring in a patient who had previously had verified TB disease should be reported and counted again if >12 months have elapsed since the patient completed therapy. A case should also be reported and counted again if the patient was lost to supervision for >12 months and TB disease can be verified again. Mycobacterial diseases other than those caused by *M. tuberculosis* complex should not be counted in tuberculosis morbidity statistics unless concurrent tuberculosis occurs.

*Use of rapid identification techniques for *M. tuberculosis* (e.g., DNA probes and mycolic acid high-pressure liquid chromatography performed on a culture from a clinical specimen) are acceptable under this criterion.

†Nucleic acid amplification (NAA) tests must be accompanied by culture for mycobacteria species for clinical purposes. A culture isolate of *M. tuberculosis* complex is required for complete drug susceptibility testing and also genotyping. However, for surveillance purposes, CDC will accept results obtained from NAA tests approved by the Food and Drug Administration (FDA) and used according to the approved product labeling on the package insert, or a test produced and validated in accordance with applicable FDA and Clinical Laboratory Improvement Amendments (CLIA) regulations.

Appendix B. Recommendations for Reporting and Counting Tuberculosis Cases (Revised May 13, 2009)

Since publication of the “Recommendations for Counting Reported Tuberculosis Cases”¹ in July 1997, substantial changes have occurred, and questions have been raised within the field of tuberculosis (TB) surveillance. This appendix updates and supersedes previous versions.

A distinction should be made between **reporting** TB cases to a health department and **counting** TB cases for determining disease incidence. Throughout each year, TB cases and suspected cases are reported to public health authorities by such sources as clinics, hospitals, laboratories, and health care providers. From these reports, the state or local TB control officer must determine which cases meet the surveillance definition for TB disease and whether the case is countable. These countable TB cases are then reported to the Centers for Disease Control and Prevention (CDC).

Beginning in 2009, state and local TB control officers may also report to CDC those TB cases that are verified but not countable for morbidity statistics, as a measure of programmatic and case management burden. The noncountable report can include persons with TB disease recurring within a consecutive 12-month period after the patient completed TB therapy.

I. Reporting TB Cases

CDC recommends that health care providers and laboratories be required to report all TB cases or suspected cases to state and local health departments on the basis of “Tuberculosis Case Definition for Public Health Surveillance” (Appendix A). This notification is essential for TB programs to:

- ensure case supervision
- ensure completion of recommended therapy
- ensure completion of contact investigations
- evaluate program effectiveness
- assess trends and characteristics of TB morbidity

II. TB Surveillance

For purposes of surveillance, a case of TB is defined on the basis of laboratory or clinical evidence of active disease caused by *M. tuberculosis* complex.*

A. Laboratory Case Definition

Isolation of *M. tuberculosis* complex from a clinical specimen. The use of rapid identification techniques for *M. tuberculosis* performed on a culture from a clinical specimen (e.g., DNA probes or high-pressure liquid chromatography) is acceptable under this criterion.

or

Demonstration of *M. tuberculosis* from a clinical specimen by nucleic acid amplification test. Nucleic acid amplification (NAA) tests must be accompanied by cultures of mycobacterial species. However, for surveillance purposes, CDC will accept results obtained from NAA tests approved by the Food and Drug Administration (FDA) and used according to the approved product labeling on the package insert, or a test produced and validated in accordance with applicable FDA and Clinical Laboratory Improvement Amendments regulations.

or

Demonstration of acid-fast bacilli (AFB) in a clinical specimen when a culture has not been or cannot be obtained or is falsely negative or contaminated. Historically, this criterion has been most commonly used in diagnosing TB in the postmortem setting.

B. Clinical Case Definition

In the absence of laboratory confirmation of *M. tuberculosis* complex after a diagnostic process has been completed, persons must have **all** of the following criteria for a clinical TB diagnosis:

Evidence of TB infection based on a positive tuberculin skin test result or positive interferon gamma release assay for *M. tuberculosis*, and current treatment with two or more anti-TB medications.

and

One of the following:

1. Signs and symptoms compatible with current TB disease (e.g., an abnormal chest radiograph or abnormal chest computerized tomography scan or other chest imaging study,

*Because the majority of laboratories use tests that do not routinely distinguish *Mycobacterium tuberculosis* from closely related species, these laboratories report culture results as being positive or negative for “*Mycobacterium tuberculosis* complex.” Although in almost all cases of human disease, isolates in the *M. tuberculosis* complex are, in fact, *M. tuberculosis*, other species are possible. Other species in the *M. tuberculosis* complex include *M. bovis*, *M. africanum*, *M. microti*, *M. canettii*, *M. caprae*, *M. pinnipedii*, and *M. mungi*; the inclusion of these species in *M. tuberculosis* complex should not affect public health laboratories or programs because only a few laboratories identify to the species level. These seven species are approximately identical in DNA homology studies. In terms of their ability to cause clinical disease or be transmissible from person to person, *M. bovis*, *M. africanum*, *M. microti*, *M. canettii*, *M. pinnipedii*, and *M. mungi* behave like *M. tuberculosis*; therefore, disease caused by any of the organisms should be reported as TB, using the Report of Verified Case of TB (RVCT). The only exception is the bacillus Calmette-Guérin (BCG) strain of *M. bovis*, which can be isolated from persons who have received the vaccine for protection against TB or as cancer immunotherapy; disease caused by the BCG strain of *M. bovis* should not be reported as TB.

or

2. Clinical evidence of current disease (e.g., fever, night sweats, cough, weight loss, hemoptysis).

NOTE: The software for TB surveillance developed by CDC includes a calculated variable called “VERCRIT,” for which one of the values is Provider Diagnosis. Provider Diagnosis is selected when the user chooses to override a Suspect default value in the case verification screen as Verified by Provider Diagnosis. Thus, Provider Diagnosis is not a component of the case definition for TB in the “TB Case Definition for Public Health Surveillance” (Appendix A). CDC’s national morbidity reports have traditionally included all TB cases that are considered verified by the reporting areas, without a requirement that cases meet the published case definition.

III. Counting TB Cases

Cases that meet the CDC surveillance case definition for verified TB are counted by 52 reporting areas with count authority (50 states, the District of Columbia [DC], and New York City) to determine annual incidence for the United States. The remaining 8 reporting areas (American Samoa, Federated States of Micronesia, Guam, Marshall Islands, Northern Mariana Islands, Puerto Rico, Republic of Palau, and U.S. Virgin Islands) report cases to CDC but are not included in the annual incidence for the United States. The laboratory and clinical case definitions are the two diagnostic categories used in the CDC “Tuberculosis Case Definition for Public Health Surveillance” (Appendix A).

The majority of verified TB cases are accepted for counting on the basis of laboratory confirmation of *M. tuberculosis* complex from a clinical specimen.

A person might have more than one discrete (separate and distinct) episode of TB. If disease recurs *within* any 12-month consecutive period after the patient completed therapy, count only one episode as a case. However, if TB disease recurs in a person, *and* if >12 months have elapsed since the person completed TB therapy or the person was lost to supervision, the TB case is considered a separate episode and should be counted as a new case.

Mycobacterial diseases other than those caused by *M. tuberculosis* complex should not be counted in TB morbidity statistics unless concurrent TB occurs.

A. Verified TB Cases

COUNT

Count only verified TB cases that meet the laboratory or clinical case definitions (see Section II). TB diagnosis must

be verified by the TB control officer or designee. The CDC surveillance case definition for TB (Appendix A) describes and defines the criteria to be used in the case definition for TB disease.

DO NOT COUNT

If diagnostic procedures have not been completed, do not count; wait for confirmation of disease. Do not count as a case of illness in a patient for whom two or more anti-TB medications have been prescribed for preventive therapy for exposure to multidrug-resistant TB or while the diagnosis is still pending.

B. Nontuberculous Mycobacterial Disease

COUNT

An episode of TB disease diagnosed concurrently with another nontuberculous mycobacterial disease (NTM) should be counted as a TB case.

DO NOT COUNT

Disease attributed to or caused by NTM alone should not be counted as a TB case.

C. TB Cases Reported at Death

COUNT

TB cases first reported to the health department at the time of a person’s death are counted as incident cases, provided the person had current disease at the time of death. The TB control officer should verify the TB diagnosis.

DO NOT COUNT

Do not count as a case of TB if no evidence exists of current disease at the time of death or at autopsy.

D. Immigrants, Refugees, Permanent Resident Aliens, Border Crossers,[†] and Foreign Visitors²

COUNT

Immigrants and refugees who are examined after arriving in the United States and who receive a diagnosis of clinically active TB requiring anti-TB medications should be reported and counted by the locality of their residence at the time of diagnosis, regardless of citizenship status.

Border crossers who receive a TB diagnosis and who plan to receive anti-TB therapy from a locality in the United States for ≥90 days should be reported and counted by the locality where they receive anti-TB therapy.

Foreign visitors (e.g., students, commercial representatives, and diplomatic personnel) who receive a diagnosis of TB, are

[†]Border crosser is defined by the U.S. Citizenship and Immigration Services³ as “an alien resident of the United States reentering the country after an absence of less than six months in Canada or Mexico, or a nonresident alien entering the United States across the Canadian border for stays of no more than six months, or across the Mexican border for stays of no more than 72 hours.” Border crossers might go back and forth across the border frequently in a short period.

receiving anti-TB therapy, **and** have been or plan to remain in the United States for ≥ 90 days should be reported and counted by the locality of current residence.

DO NOT COUNT

Any person who received a TB diagnosis and who started anti-TB drugs in another country should not be counted as a new case but should be reported as a person with a verified noncountable TB case.

Border crossers and foreign visitors who receive a TB diagnosis and who receive anti-TB therapy from a locality in the United States for ≤ 89 days but who plan to return to their native country to continue therapy should not be reported or counted by the locality where they receive anti-TB therapy.

E. Out-of-State or Out-of-Area Residents

COUNT

A person's TB case should be counted by the locality in which he or she resides at the time of diagnosis. TB in a person who has no address should be counted by the locality where TB is diagnosed and treated. The TB control officer should notify the out-of-state or out-of-area TB control officer of the person's home locality to (1) determine whether the case has been counted already to avoid double counting, and (2) agree on which TB control office should count the case if it has not yet been counted.

DO NOT COUNT

Do not count a case in a patient with newly diagnosed TB who is an out-of-area resident and whose TB has already been counted by the out-of-area TB control office.

F. Migrants and Other Transients

COUNT

Persons without any fixed U.S. residence are considered to be the public health responsibility of their present locality, and their TB case should be reported and counted where diagnosed.

DO NOT COUNT

Cases among transient TB patients should not be counted when evidence exists that they have already been counted by another locality.

G. Cases Occurring in Federal Facilities (e.g., Military and Veterans Administration Facilities)

COUNT

Cases among military personnel, their dependents, or veterans should be reported and counted by the locality where the persons are residing in the United States at the time of diagnosis and initiation of treatment.

However, if military personnel or dependents are discovered to have TB at a military base outside the United States but are referred elsewhere for treatment (e.g., a

military base located within the United States), the TB case should be reported and counted where treated and not where the diagnosis was made.

DO NOT COUNT

Do not count if the case was already counted by another locality in the United States.

H. Cases Associated with the Indian Health Service

COUNT

TB should be reported to the local health authority (e.g., state or county) and counted where diagnosed and treatment is initiated. However, for specific groups (e.g., the Navajo Nation) located in multiple states, health departments should discuss each case and determine which locality should count the case.

DO NOT COUNT

Do not count if the case was already counted by another locality.

I. Cases Occurring in Correctional Facilities (e.g., Local, State, Federal, and Military)

COUNT

Frequently, persons who reside in local, state, federal, or military correctional facilities are transferred or relocated within or between different correctional facilities. TB among these persons should be reported to the local health authority and counted by the locality where the diagnosis was made and treatment plans were initiated.

DO NOT COUNT

Do not count correctional facility residents' TB cases that were counted elsewhere by another locality or correctional facility, even if treatment continues at another locale or correctional facility.

J. Peace Corps, Missionaries, and Other Citizens Residing Outside the United States

DO NOT COUNT

TB among persons who received their diagnosis outside the United States should not be counted. TB among these persons should be counted by the country in which they are residing, regardless of their plans to return to the United States for further evaluation or treatment.

IV. Recommended Administrative Practices

To promote uniformity in TB case counting, the following administrative procedures are recommended:

- A. All TB cases verified by the 52 reporting areas with count authority (50 states, DC, and New York City) during the calendar year (by December 31) will be included in the annual U.S. incidence count for that year. All TB cases verified during the calendar year by a reporting area with count authority from one of the remaining eight reporting

areas (American Samoa, Federated States of Micronesia, Guam, Marshall Islands, Northern Mariana Islands, Puerto Rico, Republic of Palau, and U.S. Virgin Islands) are also counted but are not included in the annual incidence for the United States. Cases for which bacteriologic results are pending or for which confirmation of disease is questionable for any other reason should not be counted until their status is clearly determined; they should be counted at the time they meet the criteria for counting. This means that a case reported in 1 calendar year might be included in the morbidity count for the following year. All reporting areas should ensure that agreement exists between final local and state TB figures reported to CDC. Reporting areas might not use this recommended protocol. They may wait until the beginning of the following year when they have received and processed all of the TB cases for inclusion in the annual case count for the previous year. If reporting areas decide to revise their protocols, they should be aware that their TB trends might change.

B. Occasionally, TB is reported to health departments by telephone, by letter or fax, or on forms other than the RVCT. Such information should be accepted as an official morbidity report if sufficient details are provided; otherwise, the notification should be used as an indicator of a possible TB case (suspect) that should be investigated promptly for confirmation.

V. TB Surveillance Definitions

Case: An episode of TB disease in a person meeting the laboratory or clinical criteria for TB as defined in “Tuberculosis Case Definition for Public Health Surveillance” (see Section II for criteria).

Suspect: A case for which a high index of suspicion exists for active TB (e.g., in a known contact of a person with active TB or in a person with signs or symptoms consistent with TB) and that is currently under evaluation.

Verification of a TB case: The process whereby a TB case, after the diagnostic evaluation is complete, is reviewed at the local level (e.g., state or county) by a TB control official who is familiar with TB surveillance definitions; if all the criteria for a TB case are met, the TB case is then verified and eligible for counting.

Counting of a TB case: The process whereby a reporting area with count authority evaluates verified TB cases against count criteria (e.g., assesses for case duplication). These cases are then counted for morbidity in that locality (e.g., state or county) and reported to CDC for national morbidity counting. Noncountable, verified cases should also be sent to CDC.

***M. tuberculosis* complex:** Because the majority of laboratories use tests that do not routinely distinguish *M. tuberculosis* from closely related species, those laboratories

report culture results as being positive or negative for *M. tuberculosis* complex. Although in approximately all cases of human disease, isolates in the *M. tuberculosis* complex are, in fact, *M. tuberculosis*, other species are possible. For example, one study in San Diego reported that 6% of human TB was caused by *M. bovis*; cultures from these cases would be reported by the majority of laboratories as being positive for *M. tuberculosis* complex.⁴ Other species in the *M. tuberculosis* complex include *M. africanum*, *M. microti*, *M. canettii*, *M. caprae*, and *M. pinnipedii*. Although *M. microti*, *M. canettii*, *M. caprae*, and *M. pinnipedii* are newly described species, their inclusion in *M. tuberculosis* complex should not affect public health laboratories or programs because only a few laboratories identify to the species level. These seven species are almost identical in DNA homology studies. In terms of their ability to cause clinical disease or be transmissible from person to person, *M. bovis*, *M. africanum*, *M. microti*, *M. canettii*, *M. caprae*, and *M. pinnipedii* behave similar to *M. tuberculosis*; therefore, disease caused by any of the organisms should be reported as TB by using the RVCT form. The only exception is the BCG strain of *M. bovis*, which might be isolated from persons who have received the vaccine for protection against TB or as cancer immunotherapy; disease caused by the BCG strain of *M. bovis* should not be reported as TB.

Nontuberculous mycobacteria: Mycobacteria other than *M. tuberculosis* complex that can cause human infection or disease. Common nontuberculous mycobacteria (NTM) include *M. avium* complex (also known as “MAC”) (*M. avium*, *M. intracellulare*), *M. kansasii*, *M. marinum*, *M. scrofulaceum*, *M. chelonae*, *M. fortuitum*, and *M. simiae*. Other terms have been used to represent NTM, including “MOTT” (mycobacteria other than TB) and “atypical” mycobacteria.

Reporting area: Areas responsible for counting and reporting verified TB cases to CDC. A total of 60 areas report cases to CDC: the 50 states, DC, New York City, American Samoa, Federated States of Micronesia, Guam, Marshall Islands, Northern Mariana Islands, Puerto Rico, Republic of Palau, and U.S. Virgin Islands. The annual incidence of tuberculosis for the United States is based on 52 of these reporting areas (the 50 states, DC, and New York City).

Alien: Defined by U.S. Citizenship and Immigration Services (USCIS)³ as “any person not a citizen or national of the United States.” The term alien is further defined as follows:

Border crosser: Defined by USCIS³ as “an alien resident of the United States reentering the country after an absence of less than six months in Canada or Mexico, or a nonresident alien entering the United States across the Canadian border for stays of no more than six months, or across the Mexican border for stays of no more than 72 hours.” Border crossers may go back and forth across the border frequently in a short period.

Class A TB with waiver²: All applicants who have tuberculosis disease and have been granted a waiver.

Class B1 TB, Pulmonary²

No Treatment: Applicants who have medical history, physical exam, HIV, or chest radiographic findings indicative of pulmonary TB but have negative AFB sputum smears and cultures and have not received a diagnosis of TB or who can wait to have TB treatment started after immigration.

Completed Treatment: Applicants who received a diagnosis of pulmonary TB and successfully completed directly observed therapy before immigration. The report cover sheet should indicate if the initial sputum smears and cultures were positive and if drug susceptibility testing results are available.

Class B1 TB, Extrapulmonary²: Applicants with evidence of extrapulmonary TB. Document the anatomic site of infection.

Class B2 TB, Latent TB Infection (LTBI) Evaluation²: Applicants who have a tuberculin skin test (TST) of ≥ 10 -mm induration but otherwise have a negative evaluation for TB. The size of the TST reaction, the applicant's status with respect to latent TB infection treatment, and the medications used should be documented. For applicants who have had >1 TST, if the applicant's TST reaction converted, that should be documented (i.e., initial TST was ≤ 9 -mm induration but subsequent TST was ≥ 10 -mm induration).

Class B3 TB, Contact Evaluation²: Applicants who are a recent contact of a known TB patient. The size of the applicant's TST reaction should be documented. Information about the source patient, including name, alien number, relationship to contact, and type of TB should also be documented.

Immigrant: Defined by the USCIS³ as "an alien admitted to the United States as a lawful permanent resident. Immigrants are those persons lawfully accorded the privilege of residing permanently in the United States. They may be issued immigrant visas by the [U.S.] Department of State overseas or adjusted to permanent resident status by the USCIS of the United States."

Permanent Resident Alien: See *Immigrant*.

Waivers²: A provision allows applicants undergoing pulmonary or laryngeal TB treatment to petition for a Class A TB with waiver. Waivers should be pursued for any immigrant or refugee who has a complicated clinical course and would benefit from receiving TB treatment in the United States. Applicants with diagnosed TB disease who are both smear- and culture-negative and will be traveling to the United States before start of treatment do not need to complete the waiver process.

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Appendix C. National Surveillance for Severe Adverse Events Associated with Treatment for Latent Tuberculosis Infection—Reporting Information

This information is included to alert our public health partners to the importance of reporting severe (i.e., hospitalization or death) adverse events associated with treatment for latent TB infection (LTBI). Data regarding severe adverse events (SAEs) among persons receiving treatment for LTBI are needed to serve as a basis for periodic evaluation of LTBI treatment guidelines.

In April 2000, after the publication of updated *Guidelines for Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection*,¹ CDC's Division of Tuberculosis Elimination (DTBE) began receiving reports of SAEs related to use of a 2-month course of rifampin and pyrazinamide for LTBI treatment. In response, DTBE requested and received reports and conducted on-site investigations of liver injury among persons on LTBI treatment, and treatment guidelines were revised to recommend against the general use of

rifampin and pyrazinamide for treating LTBI.^{2,3} In January 2004, DTBE implemented the National Surveillance System for Severe Adverse Events Associated with Treatment for LTBI, which collects reports about SAEs associated with any LTBI treatment regimen, to quantify the frequency of SAEs and to characterize the clinical features of affected patients.⁴

Local medical providers should report possible LTBI treatment-associated SAEs to their respective local or state health departments. State health departments should report SAEs that occurred on or after January 1, 2004, to DTBE (e-mail: LTBIdrugevents@cdc.gov). Any SAEs should also be reported to the U.S. Food and Drug Administration's MedWatch program, using the Online Voluntary Reporting Form available at: <https://www.accessdata.fda.gov/scripts/medwatch/index.cfm?action=reporting.home>.

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Appendix D. Genotyping Background Information and Glossary

Tuberculosis (TB) genotyping is a laboratory-based analysis of the genetic material of the bacteria that cause TB disease, *Mycobacterium tuberculosis* complex. The total genetic content is referred to as the genome. Specific sections of the genome contain distinct genetic patterns that help distinguish different strains of *M. tuberculosis*. TB genotyping examines the location, number, and presence of different types of spacer or repetitive DNA patterns. The areas of the genome examined in TB genotyping are different from those related to drug resistance.

Applications of Genotyping

Persons with TB disease who are related by transmission should have matching genotype results. Conversely, persons with matching TB genotyping results are probably related by transmission in some way, although the connection might not be recent or direct.

Genotyping results, when combined with epidemiologic data, can help identify persons with TB disease involved in the same chain of transmission. This information adds value to conventional TB control activities in different ways. These applications are summarized as follows:

Patient-Level Applications of Genotyping

Complete Contact Investigations

Confirm or refute patient connections (epidemiologic linkages) identified that might or might not be identified through routine contact investigations.

Cluster Investigations

- Find patient connections that were not identified through routine contact investigations
- Detect, refute, or confirm potential false-positive culture results
- Distinguish relapse TB disease from new TB infection among TB patients with recurrent TB disease

Population-Level Applications of Genotyping

- Detect potential outbreaks by using geospatial or other analyses of genotype clusters
- Refute outbreaks when cases believed to be part of the same outbreak have nonmatching genotype results
- Define the scope of potential outbreaks by identifying all cases in an area with a matching genotype
- Monitor known outbreaks over time by watching for new cases with the outbreak genotype that become added to existing clusters (outbreak surveillance)

History of TB Genotyping Surveillance in the United States

In 1996, CDC started the National Tuberculosis Genotyping Surveillance Network (NTGSN), a 5-year initiative that established the utility of genotyping in TB control efforts.¹

In 2004, based on the knowledge gained from NTGSN and associated studies,² CDC established the National TB Genotyping Service (NTGS) and funded a national genotyping laboratory, located in Michigan, to genotype at least one *M. tuberculosis* isolate from each culture-positive TB case reported in the United States.³ All TB control programs can use NTGS at no cost to the patients, healthcare providers, or health departments. NTGS participation is voluntary, with individual programs determining how genotyping data will be used for their TB control activities. Since 2004, approximately 120,000 *M. tuberculosis* isolates have been successfully genotyped through NTGS and its partnerships among CDC programs, national genotyping laboratories, and 58 states and jurisdictions.

In 2010, CDC launched the TB Genotyping Information Management System (TB GIMS), a secure Internet-based database available to all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and the U.S.-affiliated Pacific Islands. TB GIMS makes genotyping data easily available to users and links genotyping data to patient surveillance records. Key features include tools to link genotype results of isolate records from NTGS to patient surveillance records from the National TB Surveillance System (NTSS). Additional features include database queries regarding genotypes and clusters, data quality checks, aggregate reports, maps, and outbreak detection tools. TB GIMS has >500 users among local, state, federal, and territorial partners.

Genotyping-Based Outbreak Detection

CDC identifies genotype clusters that are most likely to represent TB outbreaks. Genotyping-based outbreak detection involves using geospatial analysis to identify unusual groupings of TB cases with matching genotypes that might represent outbreaks. TB control programs can use outbreak detection information to help allocate and prioritize resources for investigation and intervention on specific TB genotype clusters.

CDC's primary outbreak detection method is based on identifying higher than expected geospatial concentrations of a TB genotype in a specific county, compared with the national distribution of that genotype. This method calculates a log-likelihood ratio (LLR) statistic; clusters with higher LLRs are more likely to represent greater geospatial concentrations than clusters with lower LLRs; higher LLRs might indicate recent transmission of TB. LLRs are then classified into alert levels within TB GIMS on the basis of established cut points. Clusters are classified as *no alert* (LLRs 0–<5), *medium alert* (LLRs 5–<10), or *high alert* (≥10). The alert level and changes in alert levels (e.g., from no to

medium or high) can help TB programs identify outbreaks and prioritize TB genotype clusters for further investigation or intervention.

Genotyping Terminology

In NTGS, a genotype is defined as a unique combination of spacer oligonucleotide typing results (spoligotype) and 24-locus mycobacterial interspersed repetitive unit–variable number tandem repeat typing (MIRU–VNTR) results. Each unique combination of results is assigned a GENType designated as G followed by 5 digits, which are assigned sequentially to every genotype identified in the United States (e.g., G00162). This nomenclature is designed for convenience and ease of communication, but the specific numbers assigned have no additional importance outside NTGS. Genotyping data from NTGS should not be used for clinical decision making.

National TB Genotyping Surveillance Coverage in the United States

National TB genotyping surveillance coverage refers to the proportion of culture-positive TB cases with a genotyped *M. tuberculosis* isolate. High levels of coverage in the United States can provide a better understanding of the epidemiology of TB transmission within a specific geographic area, as well as nationally. Additionally, because outbreak detection algorithms are based on identifying unusual geospatial concentrations of genotypes, high coverage levels help decrease the likelihood of false-negative alerts. The National TB Indicator Project national genotyping surveillance coverage objective is 94%.⁴

Glossary

Alert level: A mechanism used by TB GIMS to notify users of genotype clusters, possibly representing TB outbreaks, in a specific county. The alert level is determined by the LLR for a given cluster. This is calculated by TB GIMS and is updated whenever a new case is added to a genotype cluster. E-mail notifications are generated whenever an alert level changes from a no alert LLR (0–<5.0) to medium LLR (5.0–<10.0) or high LLR (≥10.0), or from a medium LLR to a high LLR.

Cluster investigation: A cluster investigation identifies epidemiologic links between TB patients whose isolates have matching genotypes. It might consist of reviewing information from public health and medical records and interviewing case managers and outreach workers. It can also involve re-interviewing TB patients.

Epidemiologic link (epi link): An epidemiologic link is a relationship that two TB patients share that explains where, when, and how *M. tuberculosis* might have been transmitted between them. Patients who name each other as contacts have an epidemiologic link. However, an epidemiologic link can be a location where the two persons spent time together

or an activity occurred that brought them together.

Genotype: The designation that represents one or more of the three genotyping techniques used for *M. tuberculosis*: spoligotyping, MIRU–VNTR analysis, and IS6110-based restriction fragment length polymorphism (RFLP). These designations were developed to facilitate communication of genotyping information within and between TB programs. In the United States, we use GENType or PCRTyping to define a genotype.

Genotype surveillance coverage: Genotyping surveillance coverage is defined as the proportion of culture-positive TB cases with a genotype result.

GENType: A designation for each unique combination of spoligotype and 24-locus MIRU–VNTR results. GENType is designated as G followed by five digits, which are assigned sequentially to every genotype identified in the United States (e.g., G00017).

Genotyping cluster: A genotyping cluster consists of two or more cases in a jurisdiction during a specified period with *M. tuberculosis* isolates that share matching genotypes. In the United States, all cases with matching GENType or PCRTyping are considered to be in a genotype cluster. The jurisdiction and period used vary on the basis of the specific application of the term *cluster*. Within TB GIMS, a single county and a 3-year period are used to define a cluster.

Geospatial concentration: Geospatial concentration is a measure of how concentrated a genotype is in time and space. It indicates that recent transmission has occurred because patients with infections with the same genotype in the same location are more likely to have come in contact with each other. TB GIMS uses the LLR to generate a numeric measure of geospatial concentration of a given TB genotype.

Linking: In TB GIMS, *linking* refers to the process of connecting genotyping results with a reported TB case from the National TB Surveillance System (NTSS). This step is essential for ensuring that demographic, risk factor, and geographic data can be viewed in TB GIMS for genotype clusters.

LLR (log-likelihood ratio): A measure of the geographic concentration of a specific genotype in a county, compared with the national distribution of that same genotype, throughout a 3-year period. The higher the LLR, the greater the evidence that the local genotype cluster within the county represents a greater geospatial concentration than the national average, which might indicate recent transmission of *M. tuberculosis*.

MDR: Multidrug-resistant (MDR) tuberculosis strains are resistant to at least isoniazid and rifampin.

MIRU–VNTR: Mycobacterial interspersed repetitive unit–variable number tandem repeat typing analysis. MIRU–VTNR is a polymerase chain reaction (PCR)-based

genotyping assay. The CDC genotyping program performs 24-locus MIRU-VNTR analysis on every isolate submitted for genotyping. Before 2009, only 12-locus MIRU-VNTR was performed.

***Mycobacterium bovis*:** A member of the *M. tuberculosis* complex that is commonly associated with cattle, particularly in countries with a low socioeconomic status. In the United States, human cases of *M. bovis* TB typically have a foodborne origin (e.g., consumption of unpasteurized dairy products). *M. bovis* is typically resistant to pyrazinamide. Identification of TB isolates that are *M. bovis* can be performed through genotyping; however, this information should not be relied on for clinical decision making.

***Mycobacterium tuberculosis* complex:** Often abbreviated MTC, a group of closely related mycobacterial species that can cause latent TB infection (LTBI) and TB disease (i.e., *M. tuberculosis*, *M. bovis*, *M. bovis* bacillus Calmette-Guérin, *M. africanum*, *M. canetti*, *M. microti*, *M. pinnipedii*, and *M. mungi*). Among humans, the majority of TB cases are caused by *M. tuberculosis*.

NTGS: The National TB Genotyping Service has provided TB genotyping services to local and state TB control programs since 2004. National genotyping laboratories are contracted by CDC to provide genotyping services at no cost to patients, health care providers, or health departments.

NTSS: National TB Surveillance System administered by CDC. NTSS collects surveillance data through an electronic reporting registry. Data collected include sociodemographic, clinical, and risk factor variables that are reported to CDC by states and local health departments.

PCRTYPE: A designation for each unique combination of spoligotype and 12-locus MIRU-VNTR results. PCRTYPE is

designated as PCR followed by five digits, which are assigned sequentially to every genotype identified in the United States (e.g., PCR01974).

Polymerase chain reaction (PCR): A laboratory method that can rapidly amplify limited quantities of DNA, thereby enabling certain types of laboratory testing. The national genotyping laboratories routinely use two PCR-based techniques, spoligotyping and MIRU-VNTR analysis.

Relapse versus reinfection: A case of relapsed TB represents a worsening of signs and symptoms of disease after a period of improvement, caused by the same strain of *M. tuberculosis*. TB that represents a new infection (or reinfection) is disease caused by a second infection (often with a strain different from the strain that caused the initial infection). Genotyping the initial and the subsequent *M. tuberculosis* isolate might distinguish these two possibilities.

Report of a Verified Case of TB (RVCT): National surveillance data on patients with tuberculosis is recorded on this form and subsequently reported to CDC's National TB Surveillance System.

Restriction fragment length polymorphism (RFLP): Also called IS6110-based, RFLP analysis was the first widely used method for genotyping *M. tuberculosis* isolates. A genotyping technique based on measuring the number and length of specific DNA fragments that are cut by using specific restriction enzymes.

Spoligotyping: Spacer oligonucleotide genotyping. A genotyping technique based on spacer sequences located in the direct repeat region in the chromosomes (genetic makeup) of the *M. tuberculosis* complex. The spoligotype is reported as a 15-digit number.

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