Reported Tuberculosis in the United States, 2015

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

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Cover: This is a scanning electron micrograph of rod-shaped *Mycobacterium tuberculosis* bacteria, the causative agent of tuberculosis in humans. Image adapted from and courtesy of The National Institute of Allergy and Infectious Diseases (NIAID). Creation date 2010. NIAID ID number: 18139.

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PREFACE

Reported Tuberculosis in the United States, 2015, presents summary data for tuberculosis (TB) cases verified and counted during 2015. Report of Verified Case of Tuberculosis (RVCT) forms are submitted to the Division of Tuberculosis 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, 2015, is similar to previous publications (see page xi, #19) and contains an Executive Commentary, Technical Notes, seven major data sections, and appendixes. The Executive Commentary includes highlights of the 2015 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 insular areas, and freely associated states, by selected demographic, clinical, and genotypic characteristics.
- **Morbidity Tables, 2015** — Overall case counts and case rates for the United States and other jurisdictions, by selected demographic and genotypic characteristics.
- **Morbidity Tables, 2013** — Overall case counts for the United States, by selected demographic and clinical characteristics for the most recent year for which data are available for certain follow-up variables that require a longer data collection period.
- **Morbidity Tables, Reporting Areas, 2015** — TB case counts and case rates, by state and other jurisdictions, with tables of selected demographic and clinical characteristics.
- **Morbidity Tables, Reporting Areas, 2013** — 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, 2015** — 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.
- **Surveillance Slide Set, 2015** — 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 http://www.cdc.gov/tb/.
- **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.
13. *Tuberculosis Program Reports:* Tuberculosis programs (1970–1973). Atlanta: CDC; 1971–1974.
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 (1993–2014)*. Atlanta: CDC: 1994–2015.

Contact information for the TB control offices in each reporting area is available at:
http://www.cdc.gov/tb/links/tboffices.htm

Contents

Executive Commentary

Executive Commentary

Introduction

For the first time since 1992, the number of U.S. TB cases reported to the National Tuberculosis (TB) Surveillance System (NTSS) increased over the previous year. In 2015, the 50 United States and the District of Columbia reported 9,557 TB cases to CDC, representing a 1.6% increase from 2014 (Table 1). Twenty-seven states and the District of Columbia reported increased case counts from 2014 (Table 30), and four states (California, Texas, New York, and Florida) accounted for 50.6% of the national case total (Table 31). Despite this slight increase in case count, the TB incidence rate per 100,000 persons has remained relatively stable at approximately 3.0 since 2013 (Table 1). Seven states and the District of Columbia reported incidence rates above the national average (Table 30). The National Center for Health Statistics reported 493 deaths in 2014 (the most recent year for which mortality data are available) that were attributable to TB, an 11.2% decrease from 2013 (Table 1).

NTSS Description

Since 1953, in cooperation with state and local health departments, the United States national tuberculosis program has collected information on each newly reported case of tuberculosis (TB) disease in the United States. In 1985, CDC began collecting individual TB case reports using the Report of Verified Case of Tuberculosis (RVCT). The RVCT was expanded in 1993 in response to the TB epidemic of the late 1980s and early 1990s, and reporting areas began submitting the RVCT electronically via the TB Information Management System (TIMS). CDC has maintained a dynamic TB surveillance case registry since 1993. In 2009, CDC expanded the RVCT again and reporting areas transitioned from TIMS to data collection via the Public Health Information Network/National Electronic Disease Surveillance System.

In addition to the 50 United States and the District of Columbia, CDC accepts TB case reports from four U.S. insular areas (American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands) and four sovereign nations that have signed compacts of free association with the United States (Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Republic of the Marshall Islands, and Republic of Palau). In this report, these sovereign nations are referred to as "freely associated states."

Each annual TB surveillance report includes updated case counts for each year in the dynamic surveillance database, starting in 1993 through the newly available data. Reporting areas update past years' data as needed and accordingly data for past years might not match data published in previous annual reports. This annual summary contains information through 2015.

Demographics

Overall since 1993, TB incidence rates have declined in almost all racial and ethnic groups: among American Indian/Alaska Natives, from 14.4 to 6.1 cases/100,000 persons (–57.6%); among Asians, from 42.2 to 18.2 cases/100,000 (–56.9%); among non-Hispanic blacks/African Americans, from 29.1 to 5.0 cases/100,000 (–82.8%); among non-Hispanic whites, from 3.6 to 0.6 cases/100,000 (–83.3%); and among Hispanics/Latinos, the decline has been from 20.4 to 4.8 cases/100,000 (–76.5%). However, since 2013, TB incidence rates have increased among American Indian/Alaska Natives (+12.3%), Native Hawaiian/Other Pacific Islanders (+59.7%), and persons reporting multiple races (+4.8%), although these increases should be interpreted with caution because of the small sizes of the underlying populations. Since 2013, TB incidence rates have continued to gradually decline among non-Hispanic blacks/African Americans (–6.4%), non-Hispanic whites (–12.1%), and Hispanics/Latinos (–4.0%). While the TB incidence rate for Asians also declined from 2013 to 2015 (–1.0%), in 2015 the overall TB incidence rate for Asians remained over three times higher than that for Hispanics/Latinos or blacks/African Americans (Table 2).

Although the incidence rates for both the foreign-born and the U.S.-born populations have declined substantially since 1993, the decline has been less among the foreign-born (–55.6%) than among the U.S.-born (–83.8%) (Table 5). Foreign-born persons are defined as anyone born outside of the United States or U.S. insular areas and freely associated states (with the exception of those born abroad to U.S. parents). This includes naturalized U.S. citizens, permanent residents, visitors, persons with student or work visas, refugees, and persons with undocumented or unknown immigration status. The burden of TB was markedly different between foreign-born and U.S.-born populations at 15.1 and 1.2 cases/100,000 persons, respectively, which is roughly a 13-fold difference (Table 5). The majority of these cases progressed from latent TB infection acquired years in the past.

Foreign-born persons continued to represent the majority of U.S. TB cases (66.4%), roughly the same proportion as in 2014 (Table 5), and in 36 states and the District of Columbia, ≥50% of TB cases occurred among foreign-born persons (Table 34). Asians represented nearly half (47.8%) of the reported foreign-born TB cases in 2015 (Table 19). Hispanics comprised the second largest group of foreign-born TB cases (32.0%, Table 19). In comparison, among U.S.-born persons, blacks/African Americans represented the largest percentage (35.9%) of TB cases, followed by whites at 31.1% (Table 18).

Collecting information on country of birth can help direct TB prevention efforts, both primary prevention efforts around the world, as well as secondary prevention efforts in the United States to screen and treat individuals for latent TB infection. From 2011 through 2015, the top five countries of origin of foreign-born persons with TB were Mexico, the Philippines, India, Vietnam, and China (Table 6). The distribution of TB cases among foreign-born persons by world region of origin is influenced by the size of the total population from those regions living in the United States, as well as the prevalence of TB in those regions.

Of the 6,350 TB cases reported among foreign-born persons in 2015, the majority of cases occurred among persons born in the Americas region (35.7%), and those born in the Western Pacific region (32.6%), which is similar to the distribution of cases by world region of origin in 2014 (Table 20). From 1993 through 2015, the percentage of cases increased among persons born in the Eastern Mediterranean region (2.8% in 1993 to 4.6% in 2015), the Southeast Asia region (5.6% in 1993 to 15.7% in 2015), and the Africa region (2.4% in 1993 to 8.7% in 2015) (Table 20).

In 2015, TB incidence rates continued to decline for persons <5 years old and 15–24 years old; however the incidence rate for persons 45–64 years old increased slightly from 3.5 to 3.6 cases/100,000 persons. Incidence rates for all other age groups remained similar to 2014. The highest burden of disease continues to be among older adults. In 2015, adults ≥65 years old had an incidence rate of 4.8 cases/100,000, while children 5–14 years old had the lowest rate at 0.5 cases/100,000 (Table 4).

HIV Coinfection

The proportion of TB cases with a reported HIV test result who were coinfected with HIV has decreased from 48.2% in 1993 to 5.5% in 2015. In the past 3 years, this proportion has declined from 6.4% in 2013 to 5.5% in 2015 (Table 11).

TB Treatment Regimens and Drug Resistance

The proportion of TB patients prescribed the recommended initial treatment regimen including isoniazid, rifampin, pyrazinamide, and ethambutol increased from 40.3% in 1993 to 84.7% in 2015. The proportion of patients who completed therapy within 1 year increased from 63.4% in 1993 to 89.6% in 2013 (the latest year for which complete outcome data are available). The proportion of persons receiving directly observed therapy for at least a portion of the treatment

duration also increased from 36.1% in 1993 to 92.1% in 2013 (Table 10).

In 2015, 1.1% of reported TB cases had primary multidrug resistance (MDR), defined as no previous history of TB disease and resistance to at least isoniazid and rifampin (Table 9). This percentage has remained stable, fluctuating between 0.9% and 1.3% since 1996. The proportion of primary MDR TB occurring in foreign-born persons has increased from 25.3% (103 of 407) in 1993 to 86.3% (63 of 73) in 2015, which is similar to the proportion in 2014 (Table 9). In 2015, there was one case reported of extensively drug-resistant (XDR) TB, defined as resistance to isoniazid and rifampin, plus resistance to any fluoroquinolone and at least one of three injectable second-line anti-TB drugs (i.e., amikacin, kanamycin, or capreomycin).

Genotyping

TB genotyping is a laboratory-based analysis of the genetic material of the bacteria that cause TB disease. TB genotype clusters are defined as two or more cases with matching genotypes in the same county during a 3-year time period. Cases that are clustered may be the consequence of recent transmission, while unique cases are more likely attributable to reactivation of infection that was acquired in the past. Among genotyped cases during 2013–2015, 21.5% were clustered (Table 23). During this period, the percentage of clustered cases among U.S.-born persons with TB was 36.0%, compared to 14.4% among foreign-born persons diagnosed with TB in the United States (Table 22). However, not all clustered cases result from recent transmission.

In 2015, CDC scientists developed and published a new genotype-based method to estimate the proportions of cases attributable to recent transmission in defined populations (e.g., geographic areas).[1] The method, which was validated using epidemiologic data, attempts to identify a "plausible-source case" for each genotyped TB case using a combination of genotyping and spatial, temporal, clinical, and demographic criteria. In 2016, an estimate was published that approximately 14% of genotyped cases during 2011–2014 were attributed to recent transmission.[3] The method also was refined by distinguishing limited versus extensive recent transmission based on the size of plausible transmission clusters. State-level estimates were published.[3]

Conclusions

The overall number of TB cases in the United States increased in 2015 compared with the previous year, after having declined yearly during 1993–2014. The increase in the overall case count in 2015 and leveling of the U.S. incidence rate since 2013 raise concern that current TB control practices might no longer be sufficient to sustain the previously observed rate of decrease in U.S. TB incidence. Statistical modeling has shown that decreasing the prevalence of latent TB infection will also be key to eliminating TB in the United States.[2] Resuming and accelerating progress toward TB elimination will require an intensified, dual approach that includes strengthening existing systems to prevent transmission of infectious TB disease and increasing efforts to detect and treat latent TB infection.

CDC continues to work with its partners to achieve the goal of TB elimination in the United States. Current TB control strategies prioritize the early diagnosis, isolation, and treatment of people with infectious TB disease. This approach protects patients' health, prevents transmission to others, and allows for timely contact investigations to detect and prevent additional cases. These TB control efforts are essential, but by themselves cannot eliminate the disease from the United States. More than 85% of U.S. TB cases are associated with longstanding, untreated latent TB infections, and public sector efforts alone will be insufficient to reach all of those who need to be tested and treated for latent TB.[2] These efforts must also include public health systems and private providers, who are often on the front lines of health care in the communities most affected by TB.

Global TB disease burden and the incidence in the United States are closely related, emphasizing the continued need to strengthen existing support for TB control efforts abroad. This is particularly true as relates to the countries of persons who have lived in countries where TB disease is more common. Foreign-born persons continue to be disproportionately affected by TB; now accounting for 66.4% of total cases. To achieve TB elimination, intensified efforts continue to be needed to address the persistent disparities that exist between U.S.-born and foreign-born persons, as well as among U.S.-born racial and ethnic minorities.

Ongoing surveillance and improved TB control and prevention activities will be essential in light of the increase in TB case count in 2015 and the leveling of U.S. TB incidence rates in recent years. CDC also continues to study available data on TB and latent TB infection trends in the United States to better inform TB prevention and control efforts. Ultimately TB elimination will require a sustained focus on domestic TB control, a strengthened effort to diagnose and treat latent TB infection, and continued support of global TB control initiatives.

References

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2. Hill AN, Becerra J, Castro KG. Modelling tuberculosis trends in the USA. Epidemiol Infect 2012; 140: 1862-1872.

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Technical Notes

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, Report of Verified Case of Tuberculosis (RVCT). TB cases are verified according to the Tuberculosis Case Definition for Public Health Surveillance (Appendix A). TB cases are reported and counted according to the Recommendations for Reporting and Counting Tuberculosis 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*; ***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* 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 modi-

fied. 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 therefore 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 Tuberculosis 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 the following three RVCT data collection reports:

1. **Report of Verified Case of Tuberculosis** — 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.
3. **Case Completion Report (Follow-Up Report 2)** — used for all patients who were alive when TB was diagnosed.

[1]CDC. Immigration Requirements: Technical Instructions for Tuberculosis Screening and Treatment 2007. Atlanta: CDC, Division of Global Migration and Quarantine, revised September 2007; http://www.cdc.gov/immigrantrefugeehealth/pdf/tuberculosis-ti-2009.pdf.

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 Tuberculosis (RVCT) Instruction Manual. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 2009. Available at: http://www.cdc.gov/tb/programs/rvct/InstructionManual.pdf.

Tabulation and Presentation of TB Data

This report presents summary data for TB cases counted by reporting areas through the end of 2015. 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. Totals for the United States include data from the 50 states and DC.

Trend data are presented in Tables 1–15. 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 data tabulations are based on the patient's residence at the time of TB diagnosis.

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, 30, and 31, the U.S. total populations for 1990–1999 were taken from the Bridged-Race Intercensal Population Estimates for July 1, 1990–July 1, 1999 (http://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm); 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 (http://www.census.gov/popest/data/intercensal/state/state2010.html); and populations for 2010–2015

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, 2015 (http://www.census.gov/popest/data/national/totals/2015/index.html). 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) entries for multiple race (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 (http://www.census.gov/popest/data/national/asrh/1990s/nat_monthly_resident.html); denominators for 2000–2009 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 to July 1, 2010 (http://www.census.gov/popest/data/intercensal/national/nat2010.html); and denominators for 2010–2015 were obtained from the U.S. Census Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin: April 1, 2010 to July 1, 2015 (http://www.census.gov/popest/data/national/asrh/2015/index.html).

The population source for nativity is the Current Population Survey, which is used to calculate case rates for U.S.- and foreign-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.-affiliated areas. In Table 5, the populations for U.S.- and foreign-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 (http://www.census.gov/population/estimates/nation/nativity/fbtab001.txt). Denominators for computing the 1994–2015 rates were based on extrapolations from the U.S. Census Current Population Survey (accessed June 2016) through DataFerrett at: http://dataferrett.census.gov/). Denominators for computing 2015 rates in Table 17 were obtained from U.S. Census Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin: April 1, 2010 to July 1, 2015 (http://www.census.gov/popest/data/national/asrh/2015/index.html).

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, 1999–2014, available from CDC's WONDER online database and released in 2016. Data were compiled from the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Finalized numbers of TB-related deaths for 2015 were unavailable at the time of this 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 Tuberculosis Therapy

Tables 10, 59, 60, and 61 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 the patient's initial drug-susceptibility test results, age, and disease site.[2]

In Table 60, the first column lists the total number of cases reported during 2013. 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.

COT percentages were only calculated for areas reporting the reasons why therapy was stopped for ≥90% of cases listed in the overall column. 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. Table 59 presents COT percentages by ethnicity and non-Hispanic race and by state for those among whom therapy ≤1 year was indicated.

TB Disease Site

Miliary disease should be reported as a pulmonary form of TB (Tables 7, 38, and 39). 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 TB disease site.

Reporting of HIV Status

Information regarding human immunodeficiency virus (HIV) status for persons with TB is displayed in Tables 11 and 51 for those persons not dead at diagnosis; Table 11 also lists trend data for persons aged 25–44 years. Reporting completeness for HIV status has significantly improved to 95% of TB patients tested among persons aged 25–44 years during 2015; 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 re-

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

ceives 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 homeless persons) 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 48 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 57 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 included in the Unknown category.

Metropolitan Statistical Areas

Tables 62 through 66 present data by metropolitan statistical areas (MSAs) having an estimated 2015 population of ≥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 for 2012–2013 announced as of July 2015 (https://www.whitehouse.gov/sites/default/files/omb/bulletins/2015/15-01.pdf).

The MSA definitions apply to all areas except the six New England states; for those states, the New England County 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 30 include only persons residing within DC's geographic boundaries. However, the TB cases and case rates for the Washington, DC-MSA (Table 62) 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 Tuberculosis Genotyping Service

National Tuberculosis 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. Retrospective 24-locus MIRU–VNTR for older isolates can be performed, if requested, and can help in further differentiating genotype clusters. All isolates are prepared for long-term storage at genotyping laboratories or CDC.

Tuberculosis Genotyping Information Management System

In March 2010, the Tuberculosis 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-one 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 2016, a total of 537 local, state, and federal 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* 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). Therefore, although we use genotype clustering to identify likely TB transmission, transmission must be confirmed by using field data from contact investigations or other sources. 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 2004–2015 exclude cases of bacillus Calmette-Guérin *M. bovis*, which were defined as spoligotype 676773777777600 with x, y, or z in the second MIRU position. Although cases of bacillus Calmette-Guérin *M. bovis* (defined as spoligotype 676773777777600 with x, y, or z in the second MIRU position) were reported during 2004–2015, they are excluded from this report.

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, 1953–2015

	Tuberculosis cases				Tuberculosis deaths			
			Percent change				Percent change	
Year	Number	Rate	Number	Rate	Number[1]	Rate[1]	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	14,060	4.8	–3.0	–3.9	648	0.2	–1.4	–2.3
2006	13,728	4.6	–2.4	–3.3	652	0.2	0.6	–0.3
2007	13,282	4.4	–3.2	–4.2	554	0.2	–15.0	–15.8
2008	12,893	4.2	–2.9	–3.8	585	0.2	5.6	4.6
2009	11,520	3.8	–10.6	–11.4	529	0.2	–9.6	–10.4
2010	11,159	3.6	–3.1	–3.9	569	0.2	7.6	6.7
2011	10,510	3.4	–5.8	–6.5	539	0.2	–5.3	–6.0
2012	9,942	3.2	–5.4	–6.1	510	0.2	–5.4	–6.1
2013	9,550	3.0	–3.9	–4.6	555	0.2	8.8	8.0
2014	9,406	2.9	–1.5	–2.3	493	0.2	–11.2	–11.9
2015	9,557	3.0	1.6	0.8	—	—	—	—

[1]Official tuberculosis mortality statistics were compiled by the National Center for Health Statistics, CDC (http://wonder.cdc.gov/mcd-icd10.html); accessed Aug 9, 2016.
[2]Case data after 1974 are not comparable to prior years due to changes in the surveillance case definition that became effective in 1975.
[3]The 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 2015 tuberculosis case counts and rates were updated using the following sources: Bridged-Race 1990–1999 Intercensal Population Estimates for 1990–1999 (ftp://ftp.cdc.gov/pub/health_statistics/nchs/datasets/nvss/bridgepop/documentationbridgedintercena1.doc), Intercensal Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2010 (http://www.census.gov/popest/data/intercensal/state/state2010.html) and Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2015 (http://www.census.gov/popest/data/national/totals/2015/index.html); accessed Aug 9, 2016.
Percentage change results reported to one decimal. See Surveillance Slides #2 and #3.

Table 2. Tuberculosis Cases, Percentages, and Case Rates per 100,000 Population by Hispanic Ethnicity and Non-Hispanic Race: United States, 1993–2015

Year	Total cases	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]							
		No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)
1993	25,102	272	(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	327	(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	319	(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	287	(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	264	(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	254	(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	242	(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	232	(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	226	(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	185	(1.2)	8.7	3,322	(22.1)	28.2	4,467	(29.7)	12.7	—	—	—	3,042	(20.2)	1.6	—	—	—	3,973	(26.4)	10.3	66	(0.4)
2003	14,835	179	(1.2)	8.3	3,460	(23.3)	29.3	4,159	(28.0)	11.7	64	(0.4)	15.7	2,792	(18.8)	1.4	37	(0.2)	0.9	4,105	(27.7)	10.2	39	(0.3)
2004	14,499	157	(1.1)	7.2	3,335	(23.0)	27.3	4,070	(28.1)	11.4	63	(0.4)	15.0	2,631	(18.1)	1.3	34	(0.2)	0.8	4,181	(28.8)	10.1	28	(0.2)
2005	14,060	153	(1.1)	7.0	3,201	(22.8)	25.3	3,954	(28.1)	10.9	54	(0.4)	12.4	2,567	(18.3)	1.3	45	(0.3)	1.0	4,044	(28.8)	9.4	42	(0.3)
2006	13,728	165	(1.2)	7.5	3,297	(24.0)	25.2	3,730	(27.2)	10.2	52	(0.4)	11.6	2,387	(17.4)	1.2	39	(0.3)	0.8	4,049	(29.5)	9.1	9	(0.1)
2007	13,282	133	(1.0)	6.0	3,447	(26.0)	25.5	3,477	(26.2)	9.4	95	(0.7)	20.6	2,207	(16.6)	1.1	24	(0.2)	0.5	3,875	(29.2)	8.4	24	(0.2)
2008	12,893	137	(1.1)	6.1	3,395	(26.3)	24.3	3,280	(25.4)	8.8	69	(0.5)	14.5	2,143	(16.6)	1.1	43	(0.3)	0.8	3,801	(29.5)	8.0	25	(0.2)
2009	11,520	102	(0.9)	4.5	3,204	(27.8)	22.3	2,871	(24.9)	7.6	73	(0.6)	15.0	1,817	(15.8)	0.9	49	(0.4)	0.9	3,372	(29.3)	6.8	32	(0.3)
2010	11,159	151	(1.4)	6.7	3,080	(27.6)	20.8	2,675	(24.0)	7.0	96	(0.9)	19.2	1,759	(15.8)	0.9	152	(1.4)	2.7	3,231	(29.0)	6.4	15	(0.1)
2011	10,510	132	(1.3)	5.8	3,073	(29.2)	20.2	2,411	(22.9)	6.3	82	(0.8)	16.1	1,646	(15.7)	0.8	143	(1.4)	2.5	3,006	(28.6)	5.8	17	(0.2)
2012	9,942	146	(1.5)	6.3	2,964	(29.8)	18.8	2,247	(22.6)	5.8	64	(0.6)	12.3	1,570	(15.8)	0.8	141	(1.4)	2.3	2,789	(28.1)	5.3	21	(0.2)
2013	9,550	127	(1.3)	5.5	2,999	(31.4)	18.4	2,089	(21.9)	5.3	61	(0.6)	11.4	1,422	(14.9)	0.7	150	(1.6)	2.4	2,687	(28.1)	5.0	15	(0.2)
2014	9,406	117	(1.2)	5.0	2,990	(31.8)	17.7	2,013	(21.4)	5.1	91	(1.0)	16.6	1,253	(13.3)	0.6	176	(1.9)	2.8	2,747	(29.2)	5.0	19	(0.2)
2015	9,557	145	(1.5)	6.1	3,177	(33.2)	18.2	1,995	(20.9)	5.0	102	(1.1)	18.2	1,251	(13.1)	0.6	167	(1.7)	2.5	2,694	(28.2)	4.8	26	(0.3)

[1]Asian race category reporting includes Pacific Islander from 1993–2002.
[2]Native Hawaiian/Other Pacific Islander race first reported separately in 2003.
[3]Indicates two or more races reported for a person. Category first reported in 2003 and does not include persons of Hispanic/Latino origin.
[4]Persons of Hispanic ethnicity may be of any or multiple race.
[5]The higher count for unknown or missing race results for 1993–2001 reflect the impact of the transitional period 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 (http://www.census.gov/popest/data/national/asrh/1990s/nat_monthly_resident.html); accessed July 26, 2016. Denominators for computing 2000–2009 case rates were obtained from the Intercensal Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States: April 1, 2000 to July 1, 2010 (http://www.census.gov/popest/data/intercensal/national/nat2010.html); accessed August 8, 2016. Denominators for computing 2010–2015 case rates were obtained from the Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin: April 1, 2010 to July 1, 2015 (http://www.census.gov/popest/data/national/asrh/2015/index.html); accessed July 22, 2016.
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.
Data for all years updated through June 9, 2016.
See Technical Notes.
See Surveillance Slide #10.

Table 3. Tuberculosis Cases and Percentages by Hispanic Ethnicity and Non-Hispanic Race, and by Origin of Birth: United States, 1993–2015

	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]							
	US-born	Foreign-born	US-born	Foreign-born	US-born	Foreign-born	US-born	Foreign-born	US-born	Foreign-born	US-born	Foreign-born	US-born	Foreign-born	US-born	Foreign-born	US-born	Foreign-born
Year	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)						
1993	263 (97.0)	8 (3.0)	131 (3.8)	3315 (96.2)	8,250 (92.9)	630 (7.1)	— —	— —	6,317 (92.3)	528 (7.7)	— —	— —	2,235 (44.0)	2849 (56.0)	239 (77.1)	71 (22.9)		
1994	322 (98.5)	5 (1.5)	173 (4.8)	3456 (95.2)	7,576 (91.1)	738 (8.9)	— —	— —	6,009 (92.4)	494 (7.6)	— —	— —	1,989 (40.1)	2967 (59.9)	122 (57.3)	91 (42.7)		
1995	313 (98.1)	6 (1.9)	159 (4.1)	3678 (95.9)	6,750 (89.4)	797 (10.6)	— —	— —	5,427 (91.1)	529 (8.9)	— —	— —	1,907 (39.6)	2911 (60.4)	119 (60.7)	77 (39.3)		
1996	281 (97.9)	6 (2.1)	169 (4.6)	3490 (95.4)	6,301 (88.8)	793 (11.2)	— —	— —	4,968 (90.8)	503 (9.2)	— —	— —	1,603 (35.9)	2859 (64.1)	76 (46.3)	88 (53.7)		
1997	259 (98.5)	4 (1.5)	166 (4.5)	3511 (95.5)	5,718 (86.7)	875 (13.3)	— —	— —	4,255 (88.6)	546 (11.4)	— —	— —	1,464 (34.9)	2727 (65.1)	73 (48.0)	79 (52.0)		
1998	249 (98.0)	5 (2.0)	163 (4.6)	3347 (95.4)	4,972 (85.5)	845 (14.5)	— —	— —	3,914 (87.6)	553 (12.4)	— —	— —	1,280 (31.5)	2785 (68.5)	55 (46.2)	64 (53.8)		
1999	237 (97.9)	5 (2.1)	161 (4.6)	3346 (95.4)	4,607 (83.3)	924 (16.7)	— —	— —	3,637 (86.3)	575 (13.7)	— —	— —	1,119 (29.2)	2717 (70.8)	44 (55.7)	35 (44.3)		
2000	226 (97.4)	6 (2.6)	154 (4.6)	3228 (95.4)	4,106 (79.8)	1038 (20.2)	— —	— —	3,102 (85.3)	534 (14.7)	— —	— —	1,015 (26.8)	2770 (73.2)	44 (50.6)	43 (49.4)		
2001	214 (95.1)	11 (4.9)	147 (4.2)	3332 (95.8)	3,664 (76.7)	1,114 (23.3)	— —	— —	2,787 (83.6)	547 (16.4)	— —	— —	1,025 (25.7)	2965 (74.3)	35 (46.1)	41 (53.9)		
2002	183 (98.9)	2 (1.1)	143 (4.3)	3169 (95.7)	3,401 (76.4)	1,051 (23.6)	— —	— —	2,547 (83.9)	490 (16.1)	— —	— —	980 (24.8)	2973 (75.2)	28 (45.9)	33 (54.1)		
2003	176 (98.3)	3 (1.7)	152 (4.4)	3297 (95.6)	3,087 (74.4)	1,064 (25.6)	50 (78.1)	14 (21.9)	2,369 (85.0)	418 (15.0)	9 (24.3)	28 (75.7)	1,000 (24.5)	3088 (75.5)	18 (52.9)	16 (47.1)		
2004	154 (98.1)	3 (1.9)	146 (4.4)	3181 (95.6)	2,972 (73.1)	1,096 (26.9)	55 (87.3)	8 (12.7)	2,211 (84.1)	418 (15.9)	15 (44.1)	19 (55.9)	1,064 (25.5)	3107 (74.5)	15 (55.6)	12 (44.4)		
2005	147 (96.1)	6 (3.9)	121 (3.8)	3077 (96.2)	2,874 (72.8)	1,075 (27.2)	41 (75.9)	13 (24.1)	2,131 (83.1)	434 (16.9)	23 (51.1)	22 (48.9)	955 (23.7)	3073 (76.3)	13 (35.1)	24 (64.9)		
2006	162 (98.2)	3 (1.8)	133 (4.0)	3161 (96.0)	2,595 (69.6)	1,132 (30.4)	38 (73.1)	14 (26.9)	1,959 (82.1)	426 (17.9)	16 (41.0)	23 (59.0)	983 (24.4)	3051 (75.6)	3 (37.5)	5 (62.5)		
2007	129 (97.0)	4 (3.0)	135 (3.9)	3302 (96.1)	2,460 (71.0)	1,003 (29.0)	72 (75.8)	23 (24.2)	1,785 (81.2)	412 (18.8)	9 (37.5)	15 (62.5)	877 (22.8)	2968 (77.2)	14 (77.8)	4 (22.2)		
2008	134 (97.8)	3 (2.2)	153 (4.5)	3238 (95.5)	2,239 (68.3)	1,041 (31.7)	52 (75.4)	17 (24.6)	1,755 (81.9)	387 (18.1)	16 (37.2)	27 (62.8)	921 (24.3)	2876 (75.7)	12 (48.0)	13 (52.0)		
2009	98 (96.1)	4 (3.9)	149 (4.7)	3051 (95.3)	1,923 (67.0)	947 (33.0)	66 (90.4)	7 (9.6)	1,439 (79.2)	378 (20.8)	15 (30.6)	34 (69.4)	847 (25.2)	2514 (74.8)	7 (22.6)	24 (77.4)		
2010	149 (98.7)	2 (1.3)	123 (4.0)	2957 (96.0)	1,770 (66.2)	903 (33.8)	79 (83.2)	16 (16.8)	1,423 (80.9)	335 (19.1)	22 (14.5)	130 (85.5)	806 (25.0)	2420 (75.0)	0 (0)	15 (100.0)		
2011	130 (98.5)	2 (1.5)	128 (4.2)	2944 (95.8)	1,541 (63.9)	869 (36.1)	60 (73.2)	22 (26.8)	1,319 (80.1)	327 (19.9)	26 (18.3)	116 (81.7)	765 (25.5)	2238 (74.5)	4 (23.5)	13 (76.5)		
2012	145 (99.3)	1 (0.7)	119 (4.0)	2843 (96.0)	1,348 (60.0)	899 (40.0)	52 (81.3)	12 (18.8)	1,272 (81.1)	297 (18.9)	27 (19.1)	114 (80.9)	692 (24.8)	2096 (75.2)	6 (28.6)	15 (71.4)		
2013	125 (98.4)	2 (1.6)	151 (5.0)	2847 (95.0)	1,251 (59.9)	837 (40.1)	44 (72.1)	17 (27.9)	1,098 (77.3)	323 (22.7)	32 (21.6)	116 (78.4)	650 (24.2)	2034 (75.8)	4 (28.6)	10 (71.4)		
2014	117 (100.0)	0 (0)	137 (4.6)	2852 (95.4)	1,185 (58.9)	828 (41.1)	83 (91.2)	8 (8.8)	970 (77.5)	282 (22.5)	30 (17.0)	146 (83.0)	651 (23.7)	2093 (76.3)	4 (22.2)	14 (77.8)		
2015	140 (99.3)	1 (0.7)	137 (4.3)	3033 (95.7)	1,143 (57.3)	851 (42.7)	88 (86.3)	14 (13.7)	990 (79.3)	259 (20.7)	25 (15.1)	141 (84.9)	658 (24.5)	2030 (75.5)	5 (19.2)	21 (80.8)		

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

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

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

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

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

Note: 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.

Data for all years updated through June 9, 2016.

See Technical Notes.

See Surveillance Slide #15.

Table 4. Tuberculosis Cases, Percentages, and Case Rates per 100,000 Population by Age Group: United States, 1993–2015

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	14,060	474	(3.4)	2.4	377	(2.7)	0.9	1,540	(11.0)	3.6	4,737	(33.7)	5.7	4,123	(29.3)	5.6	2,809	(20.0)	7.7	0	(0)
2006	13,728	482	(3.5)	2.4	321	(2.3)	0.8	1,532	(11.2)	3.6	4,690	(34.2)	5.7	4,039	(29.4)	5.4	2,663	(19.4)	7.2	1	(0)
2007	13,282	467	(3.5)	2.3	310	(2.3)	0.8	1,580	(11.9)	3.7	4,313	(32.5)	5.2	4,037	(30.4)	5.2	2,574	(19.4)	6.8	1	(0)
2008	12,893	497	(3.9)	2.5	289	(2.2)	0.7	1,444	(11.2)	3.3	4,238	(32.9)	5.1	3,929	(30.5)	5.0	2,496	(19.4)	6.4	0	(0)
2009	11,520	403	(3.5)	2.0	244	(2.1)	0.6	1,279	(11.1)	2.9	3,885	(33.7)	4.7	3,425	(29.7)	4.3	2,283	(19.8)	5.8	1	(0)
2010	11,159	365	(3.3)	1.8	271	(2.4)	0.7	1,199	(10.7)	2.7	3,669	(32.9)	4.5	3,429	(30.7)	4.2	2,226	(19.9)	5.5	0	(0)
2011	10,510	351	(3.3)	1.7	227	(2.2)	0.6	1,030	(9.8)	2.3	3,365	(32.0)	4.1	3,292	(31.3)	4.0	2,245	(21.4)	5.4	0	(0)
2012	9,942	261	(2.6)	1.3	226	(2.3)	0.5	1,019	(10.2)	2.3	3,119	(31.4)	3.8	3,115	(31.3)	3.8	2,200	(22.1)	5.1	2	(0)
2013	9,550	295	(3.1)	1.5	188	(2.0)	0.5	976	(10.2)	2.2	2,959	(31.0)	3.5	2,952	(30.9)	3.5	2,180	(22.8)	4.9	0	(0)
2014	9,406	263	(2.8)	1.3	195	(2.1)	0.5	962	(10.2)	2.2	2,822	(30.0)	3.4	2,957	(31.4)	3.5	2,207	(23.5)	4.8	0	(0)
2015	9,557	244	(2.6)	1.2	196	(2.1)	0.5	935	(9.8)	2.1	2,858	(29.9)	3.4	3,028	(31.7)	3.6	2,294	(24.0)	4.8	2	(0)

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 (http://www.census.gov/popest/data/national/asrh/1990s/nat_monthly_resident.html); accessed July 26, 2016). Denominators for computing 2000–2015 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 (http://www.census.gov/popest/data/intercensal/national/nat2010.html), and Annual Estimates of the Resident Population for Selected Age Groups by Sex: April 1, 2010 to July 1, 2015 (http://www.census.gov/popest/data/national/asrh/2015/index.html); accessed July 22, 2016.

Data for all years updated through June 9, 2016.

See Technical Notes.

Zero % (0) denotes <0.05%.

See Surveillance Slides #7 and #8.

Table 5. Tuberculosis Cases, Percentages, and Case Rates per 100,000 Population by Origin of Birth: United States, 1993–2015

Year	Total cases	U.S.-born persons			Foreign-born persons[1]			Unknown/missing	
		No.	(%)	Rate	No.	(%)	Rate	No.	(%)
1993	25,102	17,435	(69.5)	7.4	7,401	(29.5)	34.0	266	(1.1)
1994	24,206	16,191	(66.9)	6.8	7,751	(32.0)	36.0	264	(1.1)
1995	22,726	14,675	(64.6)	6.1	7,998	(35.2)	38.0	53	(0.2)
1996	21,210	13,398	(63.2)	5.6	7,739	(36.5)	32.0	73	(0.3)
1997	19,751	11,935	(60.4)	4.9	7,742	(39.2)	30.8	74	(0.4)
1998	18,286	10,633	(58.1)	4.4	7,599	(41.6)	28.8	54	(0.3)
1999	17,499	9,805	(56.0)	4.0	7,602	(43.4)	28.1	92	(0.5)
2000	16,308	8,647	(53.0)	3.5	7,619	(46.7)	26.4	42	(0.3)
2001	15,945	7,872	(49.4)	3.2	8,010	(50.2)	27.6	63	(0.4)
2002	15,055	7,282	(48.4)	2.9	7,718	(51.3)	25.5	55	(0.4)
2003	14,835	6,861	(46.2)	2.7	7,928	(53.4)	23.8	46	(0.3)
2004	14,499	6,632	(45.7)	2.6	7,844	(54.1)	23.1	23	(0.2)
2005	14,060	6,305	(44.8)	2.5	7,724	(54.9)	22.2	31	(0.2)
2006	13,728	5,889	(42.9)	2.3	7,815	(56.9)	21.6	24	(0.2)
2007	13,282	5,481	(41.3)	2.1	7,731	(58.2)	20.8	70	(0.5)
2008	12,893	5,282	(41.0)	2.0	7,602	(59.0)	20.1	9	(0.1)
2009	11,520	4,544	(39.4)	1.7	6,959	(60.4)	18.7	17	(0.1)
2010	11,159	4,372	(39.2)	1.6	6,778	(60.7)	17.7	9	(0.1)
2011	10,510	3,973	(37.8)	1.5	6,531	(62.1)	17.0	6	(0.1)
2012	9,942	3,661	(36.8)	1.4	6,277	(63.1)	15.9	4	(0)
2013	9,550	3,355	(35.1)	1.2	6,186	(64.8)	15.6	9	(0.1)
2014	9,406	3,177	(33.8)	1.2	6,223	(66.2)	15.4	6	(0.1)
2015	9,557	3,186	(33.3)	1.2	6,350	(66.4)	15.1	21	(0.2)

[1]Includes persons born outside the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).

Note: Denominators for computing rates for years 1993–1994 were 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/fbtab001.txt); accessed June, 2016. Denominators for computing the 1994–2015 rates are based on the U.S. Census Bureau, Current Population Survey via Data Ferrett (http://dataferrett.census.gov/); accessed June, 2016.

Data for all years updated through June 9, 2016.

See Technical Notes.

Zero % (0) denotes <0.05%.

See Surveillance Slides #13, #14, #17, and #18.

Table 6. Tuberculosis Cases and Percentages Among Foreign-Born Persons[1] by the Top 30 Countries[2] of Birth: United States, 2011–2015

Country of Origin	Year									
	2015		2014		2013		2012		2011	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Total Cases	**6,350**	**(100.0)**	**6,223**	**(100.0)**	**6,186**	**(100.0)**	**6,277**	**(100.0)**	**6,531**	**(100.0)**
Mexico	1,254	(19.7)	1,282	(20.6)	1,243	(20.1)	1,312	(20.9)	1,445	(22.1)
Philippines	820	(12.9)	755	(12.1)	781	(12.6)	772	(12.3)	759	(11.6)
India	579	(9.1)	479	(7.7)	495	(8.0)	531	(8.5)	509	(7.8)
Vietnam	519	(8.2)	502	(8.1)	457	(7.4)	453	(7.2)	551	(8.4)
China	426	(6.7)	420	(6.7)	376	(6.1)	354	(5.6)	377	(5.8)
Guatemala	189	(3.0)	180	(2.9)	214	(3.5)	194	(3.1)	172	(2.6)
Haiti	166	(2.6)	165	(2.7)	171	(2.8)	199	(3.2)	189	(2.9)
Ethiopia	143	(2.3)	142	(2.3)	159	(2.6)	162	(2.6)	155	(2.4)
Honduras	140	(2.2)	142	(2.3)	121	(2.0)	125	(2.0)	129	(2.0)
Myanmar	120	(1.9)	102	(1.6)	105	(1.7)	116	(1.8)	93	(1.4)
Korea, Republic of	94	(1.5)	92	(1.5)	99	(1.6)	109	(1.7)	131	(2.0)
El Salvador	109	(1.7)	97	(1.6)	96	(1.6)	116	(1.8)	104	(1.6)
Somalia	85	(1.3)	105	(1.7)	87	(1.4)	101	(1.6)	116	(1.8)
Peru	80	(1.3)	91	(1.5)	91	(1.5)	79	(1.3)	93	(1.4)
Pakistan	85	(1.3)	89	(1.4)	78	(1.3)	68	(1.1)	88	(1.3)
Cambodia	86	(1.4)	74	(1.2)	71	(1.1)	78	(1.2)	91	(1.4)
Nepal	79	(1.2)	78	(1.3)	72	(1.2)	81	(1.3)	78	(1.2)
Ecuador	70	(1.1)	74	(1.2)	80	(1.3)	65	(1.0)	78	(1.2)
Laos	66	(1.0)	70	(1.1)	89	(1.4)	64	(1.0)	62	(0.9)
Dominican Republic	65	(1.0)	68	(1.1)	62	(1.0)	74	(1.2)	75	(1.1)
Nigeria	74	(1.2)	51	(0.8)	68	(1.1)	58	(0.9)	52	(0.8)
Bangladesh	67	(1.1)	42	(0.7)	71	(1.1)	54	(0.9)	66	(1.0)
Kenya	50	(0.8)	49	(0.8)	48	(0.8)	58	(0.9)	75	(1.1)
Bhutan	46	(0.7)	63	(1.0)	57	(0.9)	58	(0.9)	39	(0.6)
Thailand	39	(0.6)	48	(0.8)	38	(0.6)	33	(0.5)	36	(0.6)
Korea, Dem. People's Republic	27	(0.4)	30	(0.5)	37	(0.6)	47	(0.7)	38	(0.6)
Colombia	45	(0.7)	36	(0.6)	37	(0.6)	25	(0.4)	33	(0.5)
Indonesia	39	(0.6)	29	(0.5)	34	(0.5)	41	(0.7)	32	(0.5)
Cuba	32	(0.5)	44	(0.7)	25	(0.4)	30	(0.5)	40	(0.6)
Liberia	40	(0.6)	28	(0.4)	29	(0.5)	33	(0.5)	28	(0.4)
All Others[3]	716	(11.3)	796	(12.8)	795	(12.9)	787	(12.5)	797	(12.2)

[1]Includes persons born outside of the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).
[2]The top 30 countries were selected based on their ranked 5-year average number of TB cases.
[3]Includes Not Specified for Country of Origin.
Note: Data for all years updated through June 9, 2016.

Table 7. Tuberculosis Cases and Percentages by Case Verification Criterion and Site of Disease: United States, 1993–2015

Year	Total cases	Verification criterion[1]										Site of disease[5]			
		Positive culture		Positive NAA[2]		Positive smear		Clinical case definition		Provider diagnosis		Pulmonary[3]		Extra-pulmonary[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	14,060	10,954	(77.9)	—	—	96	(0.7)	1,797	(12.8)	1,213	(8.6)	11,121	(79.1)	2,933	(20.9)
2006	13,728	10,745	(78.3)	—	—	93	(0.7)	1,629	(11.9)	1,261	(9.2)	10,853	(79.1)	2,872	(20.9)
2007	13,282	10,426	(78.5)	—	—	69	(0.5)	1,496	(11.3)	1,291	(9.7)	10,592	(79.8)	2,687	(20.2)
2008	12,893	10,022	(77.7)	18	(0.1)	60	(0.5)	1,549	(12.0)	1,244	(9.6)	10,236	(79.4)	2,653	(20.6)
2009	11,520	8,883	(77.1)	57	(0.5)	74	(0.6)	1,779	(15.4)	727	(6.3)	9,009	(78.3)	2,497	(21.7)
2010	11,159	8,458	(75.8)	105	(0.9)	69	(0.6)	1,879	(16.8)	648	(5.8)	8,721	(78.2)	2,433	(21.8)
2011	10,510	8,084	(76.9)	123	(1.2)	61	(0.6)	1,680	(16.0)	562	(5.3)	8,328	(79.3)	2,179	(20.7)
2012	9,942	7,630	(76.7)	119	(1.2)	38	(0.4)	1,640	(16.5)	515	(5.2)	7,845	(79.0)	2,087	(21.0)
2013	9,550	7,360	(77.1)	149	(1.6)	47	(0.5)	1,506	(15.8)	488	(5.1)	7,574	(79.4)	1,971	(20.6)
2014	9,406	7,235	(76.9)	163	(1.7)	45	(0.5)	1,496	(15.9)	467	(5.0)	7,462	(79.4)	1,935	(20.6)
2015	9,557	7,410	(77.5)	185	(1.9)	48	(0.5)	1,459	(15.3)	455	(4.8)	7,618	(79.8)	1,933	(20.2)

[1]Based on the public health surveillance case definition for tuberculosis; see Appendix A.
[2]Nucleic Acid Amplification test. Information not collected before 2008.
[3]Includes all cases among persons with pulmonary as the only site of disease, and persons with both pulmonary and extrapulmonary sites of disease.
[4]Includes cases among persons with extrapulmonary TB disease only.
[5]Excludes missing and unknowns.
Note: See Technical Notes.
Data for all years updated through June 9, 2016.

Table 8. Tuberculosis Cases and Percentages, by Resistance to Isoniazid (INH)[1], Origin of Birth, and Previous History of TB: United States, 1993–2015

Year	All INH-resistant[2]	Isoniazid resistant TB cases																	
		Total INH-resistant						U.S.-born INH-resistant[3]						Foreign-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)	16,600	1,367	(8.2)	668	83	(12.4)	11,809	789	(6.7)	301	75	(24.9)	4,663	564	(12.1)
1994	1,543	1,033	175	(16.9)	16,417	1,352	(8.2)	693	81	(11.7)	11,019	709	(6.4)	336	93	(27.7)	5,281	631	(11.9)
1995	1,350	958	168	(17.5)	16,021	1,172	(7.3)	593	77	(13.0)	10,350	555	(5.4)	363	91	(25.1)	5,640	616	(10.9)
1996	1,284	862	142	(16.5)	15,358	1,133	(7.4)	559	68	(12.2)	9,646	496	(5.1)	303	74	(24.4)	5,665	636	(11.2)
1997	1,195	742	109	(14.7)	14,448	1,078	(7.5)	455	35	(7.7)	8,705	435	(5.0)	286	74	(25.9)	5,698	640	(11.2)
1998	1,120	749	98	(13.1)	13,418	1,011	(7.5)	485	38	(7.8)	7,711	366	(4.7)	262	60	(22.9)	5,674	643	(11.3)
1999	999	669	82	(12.3)	12,655	899	(7.1)	383	25	(6.5)	7,020	283	(4.0)	283	55	(19.4)	5,583	614	(11.0)
2000	981	632	84	(13.3)	11,825	889	(7.5)	360	22	(6.1)	6,144	269	(4.4)	272	62	(22.8)	5,652	617	(10.9)
2001	897	629	87	(13.8)	11,510	800	(7.0)	324	28	(8.6)	5,583	242	(4.3)	302	59	(19.5)	5,891	557	(9.5)
2002	912	569	80	(14.1)	10,813	826	(7.6)	303	23	(7.6)	5,069	206	(4.1)	264	57	(21.6)	5,703	619	(10.9)
2003	903	524	65	(12.4)	10,751	822	(7.6)	253	16	(6.3)	4,864	214	(4.4)	271	49	(18.1)	5,857	604	(10.3)
2004	872	537	64	(11.9)	10,481	801	(7.6)	274	15	(5.5)	4,698	214	(4.6)	263	49	(18.6)	5,773	587	(10.2)
2005	842	506	70	(13.8)	10,063	761	(7.6)	239	18	(7.5)	4,411	188	(4.3)	267	52	(19.5)	5,635	567	(10.1)
2006	845	493	67	(13.6)	9,906	770	(7.8)	203	9	(4.4)	4,145	173	(4.2)	289	57	(19.7)	5,745	596	(10.4)
2007	798	496	71	(14.3)	9,647	715	(7.4)	206	14	(6.8)	3,878	164	(4.2)	288	57	(19.8)	5,716	547	(9.6)
2008	835	429	57	(13.3)	9,305	774	(8.3)	170	13	(7.6)	3,677	189	(5.1)	259	44	(17.0)	5,622	584	(10.4)
2009	763	341	52	(15.2)	7,740	652	(8.4)	116	6	(5.2)	3,042	186	(6.1)	224	46	(20.5)	4,690	466	(9.9)
2010	699	359	62	(17.3)	7,812	628	(8.0)	128	12	(9.4)	2,970	165	(5.6)	231	50	(21.6)	4,836	463	(9.6)
2011	752	345	59	(17.1)	7,545	686	(9.1)	137	9	(6.6)	2,719	172	(6.3)	208	50	(24.0)	4,823	514	(10.7)
2012	693	356	56	(15.7)	7,084	637	(9.0)	126	8	(6.3)	2,548	153	(6.0)	230	48	(20.9)	4,536	484	(10.7)
2013	675	299	48	(16.1)	6,848	620	(9.1)	97	8	(8.2)	2,303	131	(5.7)	202	40	(19.8)	4,540	489	(10.8)
2014	689	336	63	(18.8)	6,715	620	(9.2)	96	5	(5.2)	2,205	164	(7.4)	240	58	(24.2)	4,506	456	(10.1)
2015	666	319	48	(15.0)	6,846	613	(9.0)	104	7	(6.7)	2,173	140	(6.4)	215	41	(19.1)	4,659	468	(10.0)

[1]Resistance to at least isoniazid. Isolates may be resistant to other drugs. Eligible cases are culture positive with initial drug susceptibility testing done. Excludes cases with susceptibility testing not done or unknown for isoniazid. Cases have been susceptibility tested to at least isoniazid and rifampin.

[2]This 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.

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

[4]Includes persons born outside the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).

Note: Data for all years updated through June 9, 2016.

Table 9. Tuberculosis Cases and Percentages, by Multidrug Resistance (MDR)[1], Origin of Birth, and Previous History of TB: United States, 1993–2015

Year	All MDR[2]	Multidrug resistant TB cases																	
		Total MDR[3]						U.S.-born MDR[3]						Foreign-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)	16,600	407	(2.5)	668	30	(4.5)	11,809	301	(2.5)	301	46	(15.3)	4,663	103	(2.2)
1994	431	1,033	74	(7.2)	16,417	353	(2.2)	693	35	(5.1)	11,019	238	(2.2)	336	38	(11.3)	5,281	110	(2.1)
1995	327	958	70	(7.3)	16,021	254	(1.6)	593	28	(4.7)	10,350	169	(1.6)	363	42	(11.6)	5,640	85	(1.5)
1996	250	862	43	(5.0)	15,358	207	(1.3)	559	21	(3.8)	9,646	105	(1.1)	303	22	(7.3)	5,665	101	(1.8)
1997	201	742	44	(5.9)	14,448	155	(1.1)	455	12	(2.6)	8,705	76	(0.9)	286	32	(11.2)	5,698	79	(1.4)
1998	155	749	23	(3.1)	13,418	132	(1.0)	485	6	(1.2)	7,711	55	(0.7)	262	17	(6.5)	5,674	76	(1.3)
1999	157	669	28	(4.2)	12,655	127	(1.0)	383	6	(1.6)	7,020	39	(0.6)	283	22	(7.8)	5,583	88	(1.6)
2000	146	632	26	(4.1)	11,825	120	(1.0)	360	2	(0.6)	6,144	40	(0.7)	272	24	(8.8)	5,652	80	(1.4)
2001	151	629	33	(5.2)	11,510	115	(1.0)	324	7	(2.2)	5,583	34	(0.6)	302	26	(8.6)	5,891	81	(1.4)
2002	158	569	26	(4.6)	10,813	132	(1.2)	303	3	(1.0)	5,069	35	(0.7)	264	23	(8.7)	5,703	97	(1.7)
2003	119	524	21	(4.0)	10,751	94	(0.9)	253	2	(0.8)	4,864	24	(0.5)	271	19	(7.0)	5,857	69	(1.2)
2004	128	537	27	(5.0)	10,481	100	(1.0)	274	4	(1.5)	4,698	26	(0.6)	263	23	(8.7)	5,773	74	(1.3)
2005	125	506	23	(4.5)	10,063	98	(1.0)	239	2	(0.8)	4,411	20	(0.5)	267	21	(7.9)	5,635	77	(1.4)
2006	124	493	20	(4.1)	9,906	103	(1.0)	203	1	(0.5)	4,145	19	(0.5)	289	19	(6.6)	5,745	84	(1.5)
2007	124	496	19	(3.8)	9,647	101	(1.0)	206	3	(1.5)	3,878	19	(0.5)	288	16	(5.6)	5,716	82	(1.4)
2008	107	429	19	(4.4)	9,305	88	(0.9)	170	3	(1.8)	3,677	21	(0.6)	259	16	(6.2)	5,622	67	(1.2)
2009	115	341	19	(5.6)	7,740	90	(1.2)	116	1	(0.9)	3,042	11	(0.4)	224	18	(8.0)	4,690	79	(1.7)
2010	105	359	16	(4.5)	7,812	87	(1.1)	128	2	(1.6)	2,970	14	(0.5)	231	14	(6.1)	4,836	73	(1.5)
2011	127	345	27	(7.8)	7,545	100	(1.3)	137	1	(0.7)	2,719	16	(0.6)	208	26	(12.5)	4,823	84	(1.7)
2012	89	356	13	(3.7)	7,084	76	(1.1)	126	0	(0)	2,548	13	(0.5)	230	13	(5.7)	4,536	63	(1.4)
2013	96	299	12	(4.0)	6,848	83	(1.2)	97	2	(2.1)	2,303	7	(0.3)	202	10	(5.0)	4,540	76	(1.7)
2014	94	336	24	(7.1)	6,715	70	(1.0)	96	0	(0)	2,205	10	(0.5)	240	24	(10.0)	4,506	60	(1.3)
2015	89	319	16	(5.0)	6,846	73	(1.1)	104	3	(2.9)	2,173	10	(0.5)	215	13	(6.0)	4,659	63	(1.4)

[1]Resistance to at least isoniazid and rifampin. Isolates may be resistant to other drugs. Eligible cases are culture positive with initial drug susceptibility testing done. Excludes cases with susceptibility testing not done or unknown for isoniazid and rifampin. Cases have been susceptibility tested to at least isoniazid and rifampin.

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

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

[4]Includes persons born outside the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).

Note: Data for all years updated through June 9, 2016.

Table 10. Percentages of Tuberculosis Cases, by Initial Drug Regimen, Use of Directly Observed Therapy (DOT), and Completion of Therapy (COT): United States, 1993–2015

Year	Initial drug regimen[1,2]			Directly observed therapy[3]		Therapy ≤1 year indicated[4]	
	IR	IRZ	IRZE	DOT only	Both DOT and self-administered	COT ≤1 Year	COT ever
1993	(13.0)	(31.2)	(40.3)	(21.7)	(14.4)	(63.4)	(86.0)
1994	(7.0)	(23.3)	(55.7)	(28.1)	(20.5)	(68.6)	(86.8)
1995	(5.2)	(20.3)	(62.7)	(37.3)	(21.5)	(74.1)	(89.2)
1996	(4.2)	(17.5)	(67.3)	(42.5)	(22.4)	(76.8)	(90.2)
1997	(3.2)	(15.1)	(71.9)	(47.0)	(23.8)	(78.7)	(91.0)
1998	(2.6)	(12.9)	(74.3)	(47.7)	(26.6)	(81.2)	(92.2)
1999	(2.2)	(11.2)	(76.9)	(49.4)	(27.6)	(81.4)	(92.2)
2000	(2.0)	(10.4)	(78.5)	(52.5)	(25.8)	(82.2)	(92.5)
2001	(1.7)	(9.6)	(79.8)	(53.6)	(27.5)	(82.5)	(92.7)
2002	(1.8)	(8.9)	(80.3)	(55.4)	(27.8)	(83.0)	(92.5)
2003	(1.4)	(8.1)	(81.3)	(56.5)	(28.5)	(83.6)	(92.8)
2004	(1.5)	(6.4)	(82.4)	(58.9)	(27.7)	(84.3)	(92.6)
2005	(1.3)	(5.5)	(83.7)	(57.9)	(29.6)	(84.0)	(92.5)
2006	(1.2)	(4.8)	(83.3)	(57.5)	(30.4)	(84.8)	(93.2)
2007	(1.1)	(4.6)	(83.8)	(56.3)	(32.9)	(85.6)	(93.9)
2008	(1.0)	(3.5)	(84.3)	(56.3)	(33.5)	(86.0)	(93.3)
2009	(0.9)	(3.1)	(84.3)	(59.6)	(30.3)	(88.8)	(95.6)
2010	(0.8)	(2.8)	(84.5)	(59.3)	(31.1)	(89.7)	(96.1)
2011[5]	(0.7)	(2.6)	(85.2)	(62.2)	(29.2)	(89.6)	(96.3)
2012[5]	(0.6)	(2.0)	(85.4)	(61.8)	(29.2)	(90.0)	(96.2)
2013[5]	(0.5)	(2.3)	(84.4)	(63.2)	(28.9)	(89.6)	(95.9)
2014[5]	(0.3)	(2.1)	(84.9)	—	—	—	—
2015[5]	(0.5)	(2.0)	(84.7)	—	—	—	—

[1]Includes persons alive at diagnosis.
[2]I, isoniazid; R, rifampin; Z, pyrazinamide; E, ethambutol. Excludes cases with no information on initial drug regimen. In 2015, 0.48% received no initial drug therapy, 0.12% were started on one drug, and 12.3% had an initial drug regimen other than IR, IRZ, or IRZE.
[3]Includes persons alive at diagnosis with initial drug regimen of one or more drugs prescribed.
[4]Therapy ≤1 year indicated in persons alive at diagnosis with an initial 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.
[5]Begining in 2011, those who moved out of country during treatment are excluded from the denominator of those eligible for COT.
Note: Data as of June 9, 2016.
See Technical Notes for details and for description of COT calculation.
See Surveillance Slides #30 and #31.

Table 11. Tuberculosis Cases and Percentages Among Persons with HIV Test Results[1] and with HIV Coinfection by Age Group: United States, 1993–2015

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	3,253	(69.3)	598	(18.4)	13,767	8,150	(59.2)	1,017	(12.5)
2006	4,648	3,270	(70.4)	546	(16.7)	13,412	8,231	(61.4)	927	(11.3)
2007	4,266	3,133	(73.4)	468	(14.9)	12,993	8,266	(63.6)	846	(10.2)
2008	4,203	3,089	(73.5)	399	(12.9)	12,642	8,166	(64.6)	792	(9.7)
2009	3,853	2,834	(73.6)	384	(13.5)	11,269	7,337	(65.1)	688	(9.4)
2010	3,632	2,759	(76.0)	310	(11.2)	10,912	7,436	(68.1)	595	(8.0)
2011[2]	3,332	3,047	(91.4)	331	(10.9)	10,268	8,711	(84.8)	649	(7.5)
2012	3,098	2,882	(93.0)	328	(11.4)	9,726	8,433	(86.7)	611	(7.2)
2013	2,935	2,779	(94.7)	257	(9.2)	9,339	8,343	(89.3)	535	(6.4)
2014	2,804	2,649	(94.5)	229	(8.6)	9,212	8,269	(89.8)	493	(6.0)
2015	2,843	2,698	(94.9)	204	(7.6)	9,349	8,366	(89.5)	459	(5.5)

[1]Includes 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 for Vermont are not included for years 2007–present. HIV test results for California are not included for years 2005–2010.

[2]California began reporting HIV test results to CDC in 2011.

Note: Data as of June 9, 2016.

See Surveillance Slides #26 and #27.

HIV, human immunodeficiency virus.

Table 12. Tuberculosis Cases and Percentages, by Reason Tuberculosis Therapy Was Stopped: United States, 1993–2013

Year	Total cases[1]	Completed therapy		Adverse event		Moved[2]		Lost		Refused		Died[3]		Unknown[4]	
	No.	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
1993	23,740	18,043	(76.0)	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)	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)	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)	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)	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)	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)	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)	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)	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)	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)	313	(2.2)	390	(2.7)	84	(0.6)	994	(6.9)	180	(1.3)
2004	14,080	12,118	(86.1)	0	(0)	337	(2.4)	370	(2.6)	82	(0.6)	975	(6.9)	198	(1.4)
2005	13,673	11,727	(85.8)	1	(0)	323	(2.4)	338	(2.5)	90	(0.7)	985	(7.2)	209	(1.5)
2006	13,317	11,541	(86.7)	0	(0)	292	(2.2)	358	(2.7)	79	(0.6)	939	(7.1)	108	(0.8)
2007	12,907	11,348	(87.9)	0	(0)	241	(1.9)	327	(2.5)	73	(0.6)	819	(6.3)	99	(0.8)
2008	12,552	10,887	(86.7)	7	(0.1)	256	(2.0)	329	(2.6)	78	(0.6)	843	(6.7)	152	(1.2)
2009	11,185	9,832	(87.9)	22	(0.2)	96	(0.9)	165	(1.5)	82	(0.7)	682	(6.1)	306	(2.7)
2010	10,835	9,543	(88.1)	29	(0.3)	—	—	159	(1.5)	64	(0.6)	657	(6.1)	383	(3.5)
2011	10,209	8,982	(88.0)	28	(0.3)	—	—	127	(1.2)	69	(0.7)	688	(6.7)	315	(3.1)
2012	9,674	8,502	(87.9)	31	(0.3)	—	—	123	(1.3)	57	(0.6)	607	(6.3)	354	(3.7)
2013	9,266	8,127	(87.7)	40	(0.4)	—	—	97	(1.0)	66	(0.7)	579	(6.2)	357	(3.9)

[1]Includes all cases in persons reported as alive at diagnosis and taking one or more TB drugs.
[2]In 2009 the "moved" response option was removed from the RVCT's reason therapy was stopped variable; see Technical Notes for details.
[3]Died = died of any cause (not only TB).
[4]Includes cases in persons reporting reason therapy stopped = other, missing, unknown, or moved (from 2010).
Note: Data for all years are updated through June 9, 2016.
Data complete to 2013. See Technical Notes for details.

Table 13. National Tuberculosis Genotyping Surveillance Coverage[1]: United States, 2004–2015

Year	Reported TB cases	Reported culture positive cases	Cases with genotype result	Genotype surveillance coverage
	No.	No.	No.	(%)
2004	14,499	11,327	5,954	(52.6)
2005	14,060	10,954	7,500	(68.5)
2006	13,728	10,745	7,529	(70.1)
2007	13,282	10,426	8,427	(80.8)
2008	12,893	10,022	8,179	(81.6)
2009	11,520	8,883	7,718	(86.9)
2010	11,159	8,458	7,749	(91.6)
2011	10,510	8,084	7,617	(94.2)
2012	9,942	7,630	7,234	(94.8)
2013	9,550	7,360	7,049	(95.8)
2014	9,406	7,235	6,981	(96.5)
2015	9,557	7,410	7,123	(96.1)

[1]Genotype 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 14.
See Surveillance Slide #33.

Table 14. National Tuberculosis Genotyping Surveillance Coverage[1]: United States'-Affiliated Areas[2], 2004–2015

Year	Reported TB cases	Reported culture positive cases	Cases with genotype result	Genotype surveillance coverage
	No.	No.	No.	(%)
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	72	(30.0)
2009	534	237	206	(86.9)
2010	618	309	279	(90.3)
2011	462	229	191	(83.4)
2012	493	247	225	(91.1)
2013	420	230	207	(90.0)
2014	462	234	219	(93.6)
2015	413	149	127	(85.2)

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

[2]The 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 15. Genotyped Tuberculosis Cases with *Mycobacterium bovis*[1] by Origin of Birth: United States, 2004–2015

Year	Total genotyped cases	*Mycobacterium bovis* cases					
		Total		U.S.-born		Foreign-born	
	No.	No.[2]	(%)	No.	(%)[3]	No.	(%)[3]
2004	5,954	73	(1.2)	23	(31.5)	50	(68.5)
2005	7,500	81	(1.1)	23	(28.4)	58	(71.6)
2006	7,529	116	(1.5)	25	(21.6)	90	(77.6)
2007	8,427	113	(1.3)	17	(15.0)	95	(84.1)
2008	8,179	129	(1.6)	29	(22.5)	100	(77.5)
2009	7,718	113	(1.5)	27	(23.9)	86	(76.1)
2010	7,749	108	(1.4)	20	(18.5)	88	(81.5)
2011	7,617	117	(1.5)	30	(25.6)	87	(74.4)
2012	7,234	109	(1.5)	18	(16.5)	91	(83.5)
2013	7,049	86	(1.2)	17	(19.8)	69	(80.2)
2014	6,981	107	(1.5)	24	(22.4)	83	(77.6)
2015	7,123	123	(1.7)	30	(24.4)	93	(75.6)

[1]*M. bovis* cases were defined predominantly by spoligotyping results with missing spacers 3, 9, 16, and 39–43. Data exclude cases of Bacillus Calmette-Guérin (BCG) *M. bovis*, which have x, y or z in the second MIRU position.
[2]This column reports all genotyped *M. bovis* cases, including those where origin of birth is unknown.
[3]Denominator is all *M. bovis* cases.

Morbidity Tables 2015

Table 16. Tuberculosis Cases and Percentages Among Foreign-Born Persons[1], by the Top 30 Countries of Birth and Years in the United States Before TB Diagnosis: United States, 2015

Country of origin[2]	Total cases	No.Years in U.S.[3]											
		<1 Year		1–4		5–9		10–19		≥20		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Total	**6,350**	**1,062**	**(16.7)**	**1,003**	**(15.8)**	**776**	**(12.2)**	**1,240**	**(19.5)**	**1,682**	**(26.5)**	**587**	**(9.2)**
Mexico	1,254	115	(9.2)	84	(6.7)	115	(9.2)	300	(23.9)	488	(38.9)	152	(12.1)
Philippines	820	110	(13.4)	81	(9.9)	100	(12.2)	167	(20.4)	277	(33.8)	85	(10.4)
India	579	122	(21.1)	125	(21.6)	86	(14.9)	113	(19.5)	94	(16.2)	39	(6.7)
Vietnam	519	53	(10.2)	60	(11.6)	69	(13.3)	80	(15.4)	185	(35.6)	72	(13.9)
China	426	48	(11.3)	70	(16.4)	52	(12.2)	100	(23.5)	118	(27.7)	38	(8.9)
Guatemala	189	41	(21.7)	52	(27.5)	31	(16.4)	25	(13.2)	22	(11.6)	18	(9.5)
Haiti	166	26	(15.7)	34	(20.5)	24	(14.5)	36	(21.7)	32	(19.3)	14	(8.4)
Ethiopia	143	36	(25.2)	44	(30.8)	29	(20.3)	24	(16.8)	6	(4.2)	4	(2.8)
Honduras	140	42	(30.0)	37	(26.4)	19	(13.6)	25	(17.9)	13	(9.3)	4	(2.9)
Myanmar	120	42	(35.0)	46	(38.3)	21	(17.5)	5	(4.2)	4	(3.3)	2	(1.7)
El Salvador	109	16	(14.7)	17	(15.6)	14	(12.8)	23	(21.1)	28	(25.7)	11	(10.1)
Korea, Republic of	94	3	(3.2)	6	(6.4)	6	(6.4)	25	(26.6)	50	(53.2)	4	(4.3)
Cambodia	86	3	(3.5)	4	(4.7)	5	(5.8)	8	(9.3)	44	(51.2)	22	(25.6)
Pakistan	85	23	(27.1)	18	(21.2)	12	(14.1)	11	(12.9)	15	(17.6)	6	(7.1)
Somalia	85	29	(34.1)	18	(21.2)	11	(12.9)	21	(24.7)	2	(2.4)	4	(4.7)
Peru	80	10	(12.5)	11	(13.8)	5	(6.3)	33	(41.3)	20	(25.0)	1	(1.3)
Nepal	79	18	(22.8)	30	(38.0)	23	(29.1)	7	(8.9)	1	(1.3)	0	(0)
Nigeria	74	24	(32.4)	23	(31.1)	11	(14.9)	7	(9.5)	5	(6.8)	4	(5.4)
Ecuador	70	14	(20.0)	6	(8.6)	13	(18.6)	20	(28.6)	8	(11.4)	9	(12.9)
Bangladesh	67	16	(23.9)	22	(32.8)	8	(11.9)	12	(17.9)	6	(9.0)	3	(4.5)
Laos	66	3	(4.5)	1	(1.5)	0	(0)	8	(12.1)	46	(69.7)	8	(12.1)
Dominican Republic	65	6	(9.2)	15	(23.1)	6	(9.2)	10	(15.4)	23	(35.4)	5	(7.7)
Kenya	50	16	(32.0)	14	(28.0)	7	(14.0)	9	(18.0)	2	(4.0)	2	(4.0)
Bhutan	46	17	(37.0)	19	(41.3)	9	(19.6)	0	(0)	0	(0)	1	(2.2)
Colombia	45	8	(17.8)	6	(13.3)	3	(6.7)	11	(24.4)	15	(33.3)	2	(4.4)
Liberia	40	11	(27.5)	10	(25.0)	10	(25.0)	6	(15.0)	2	(5.0)	1	(2.5)
Indonesia	39	9	(23.1)	7	(17.9)	4	(10.3)	9	(23.1)	6	(15.4)	4	(10.3)
Thailand	39	8	(20.5)	10	(25.6)	4	(10.3)	3	(7.7)	11	(28.2)	3	(7.7)
Congo	37	25	(67.6)	7	(18.9)	0	(0)	1	(2.7)	0	(0)	4	(10.8)
Cuba	32	9	(28.1)	1	(3.1)	3	(9.4)	7	(21.9)	10	(31.3)	2	(6.3)
All others[4]	706	159	(22.5)	125	(17.7)	76	(10.8)	134	(19.0)	149	(21.1)	63	(8.9)

[1]Includes persons born outside of the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).
[2]Ranked by total case count.
[3]Among foreign-born persons, the number of years since arrival in the United States before diagnosis with tuberculosis.
[4]Includes not specified for country of origin.
See Surveillance Slide #20.

Table 17. Tuberculosis Cases and Rates per 100,000 Population, by Hispanic Ethnicity and Non-Hispanic Race, Sex, and Age Group: United States, 2015

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	**9,557**	**3.0**	**244**	**1.2**	**196**	**0.5**	**935**	**2.1**	**2,858**	**3.4**	**3,028**	**3.6**	**2,294**	**4.8**	**2**	—
Male	5,724	3.6	122	1.2	95	0.5	518	2.3	1,592	3.7	1,992	4.9	1,405	6.7	0	—
Female	3,827	2.3	122	1.3	101	0.5	416	1.9	1,264	3.0	1,035	2.4	889	3.3	0	—
Unknown	6	—	0	—	0	—	1	—	2	—	1	—	0	—	2	—
Hispanic/Latino[1]	**2,694**	**4.8**	**106**	**2.1**	**70**	**0.7**	**305**	**3.2**	**926**	**5.4**	**802**	**7.4**	**484**	**12.8**	**1**	—
Male	1,677	5.9	49	1.9	31	0.6	187	3.8	593	6.7	540	10.0	277	17.0	0	—
Female	1,016	3.6	57	2.3	39	0.8	118	2.6	333	4.0	262	4.8	207	9.7	0	—
Unknown	1	—	0	—	0	—	0	—	0	—	0	—	0	—	1	—
American Indian/Alaska Native	**145**	**6.1**	**5**	**3.0**	**11**	**3.1**	**11**	**2.9**	**35**	**5.5**	**57**	**9.7**	**26**	**10.6**	**0**	—
Male	88	7.5	2	2.3	9	5.1	6	3.1	21	6.6	36	12.9	14	12.7	0	—
Female	57	4.7	3	3.7	2	1.2	5	2.7	14	4.4	21	6.9	12	8.9	0	—
Unknown	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—
Asian	**3,177**	**18.2**	**38**	**3.9**	**44**	**2.2**	**301**	**13.2**	**887**	**15.3**	**961**	**22.2**	**945**	**47.0**	**1**	—
Male	1,776	21.5	20	4.0	24	2.4	155	13.4	422	15.3	577	29.0	578	66.4	0	—
Female	1,399	15.3	18	3.8	20	2.0	146	12.9	465	15.2	383	16.4	367	32.2	0	—
Unknown	2	—	0	—	0	—	0	—	0	—	1	—	0	—	1	—
Black/African American	**1,995**	**5.0**	**57**	**2.1**	**52**	**0.9**	**222**	**3.5**	**659**	**6.0**	**695**	**7.0**	**310**	**7.4**	**0**	—
Male	1,195	6.3	29	2.1	22	0.8	118	3.6	360	6.8	474	10.3	192	11.4	0	—
Female	798	3.8	28	2.1	30	1.1	103	3.3	298	5.2	221	4.2	118	4.7	0	—
Unknown	2	—	0	—	0	—	1	—	1	—	0	—	0	—	0	—

Table 17. (Con't) Tuberculosis Cases and Rates per 100,000 Population, by Hispanic Ethnicity and Non-Hispanic Race, Sex, and Age Group: United States, 2015

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
Native Hawaiian/Other Pacific Islander	**102**	**18.2**	**14**	**34.7**	**6**	**7.4**	**20**	**22.9**	**41**	**22.7**	**13**	**10.5**	**8**	**17.4**	**0**	—
Male	46	16.3	4	19.1	3	7.2	11	24.5	19	20.6	7	11.4	2	9.4	0	—
Female	56	20.2	10	51.5	3	7.5	9	21.2	22	25.0	6	9.6	6	24.4	0	—
Unknown	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—
White	**1,251**	**0.6**	**19**	**0.2**	**10**	**0.0**	**53**	**0.2**	**228**	**0.5**	**467**	**0.8**	**474**	**1.3**	**0**	—
Male	831	0.9	13	0.3	6	0.1	28	0.2	126	0.5	339	1.2	319	1.9	0	—
Female	420	0.4	6	0.1	4	0.0	25	0.2	102	0.4	128	0.4	155	0.8	0	—
Unknown	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—
Multiple race[2]	**167**	**2.5**	**5**	**0.5**	**1**	**0.1**	**19**	**1.5**	**74**	**5.1**	**28**	**3.2**	**40**	**11.6**	**0**	—
Male	98	3.0	5	1.0	0	0.0	10	1.5	47	6.8	15	3.6	21	13.8	0	—
Female	68	2.0	0	0.0	1	0.1	9	1.4	26	3.4	13	2.8	19	9.9	0	—
Unknown	1	—	0	—	0	—	0	—	1	—	0	—	0	—	0	—
Unknown	**26**	—	**0**	—	**2**	—	**4**	—	**8**	—	**5**	—	**7**	—	**0**	—
Male	13	—	0	—	0	—	3	—	4	—	4	—	2	—	0	—
Female	13	—	0	—	2	—	1	—	4	—	1	—	5	—	0	—
Unknown	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—

[1]Persons of Hispanic/Latino origin may be of any or multiple race.
[2]Indicates two or more races reported for a person, and does not include persons of Hispanic/Latino origin.
Note: Denominators for computing 2015 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, 2015 (http://www.census.gov/popest/data/national/asrh/2015/index.html); accessed July 20, 2016.
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 #9 and #11.

Table 18. Tuberculosis Cases Among U.S.-Born Persons, by Hispanic Ethnicity and Non-Hispanic Race, Sex, and Age Group: United States, 2015

Race/ethnicity and sex	Age group							
	All ages	Under 5	5–14	15–24	25–44	45–64	≥65	Unknown
Total cases	**3,186**	**212**	**132**	**296**	**666**	**1,133**	**747**	**0**
Male	2,044	104	61	147	400	827	505	0
Female	1,141	108	71	148	266	306	242	0
Unknown	1	0	0	1	0	0	0	0
Hispanic/Latino[1]	**658**	**100**	**55**	**105**	**167**	**142**	**89**	**0**
Male	388	44	24	50	115	100	55	0
Female	270	56	31	55	52	42	34	0
Unknown	0	0	0	0	0	0	0	0
American Indian/Alaska Native	**140**	**5**	**10**	**11**	**32**	**56**	**26**	**0**
Male	85	2	8	6	19	36	14	0
Female	55	3	2	5	13	20	12	0
Unknown	0	0	0	0	0	0	0	0
Asian	**137**	**26**	**20**	**36**	**28**	**18**	**9**	**0**
Male	73	15	9	19	13	11	6	0
Female	64	11	11	17	15	7	3	0
Unknown	0	0	0	0	0	0	0	0
Black/African American	**1,143**	**46**	**31**	**84**	**250**	**490**	**242**	**0**
Male	753	24	12	43	148	367	159	0
Female	389	22	19	40	102	123	83	0
Unknown	1	0	0	1	0	0	0	0
Native Hawaiian/Other Pacific Islander	**88**	**14**	**6**	**19**	**35**	**10**	**4**	**0**
Male	42	4	3	10	19	5	1	0
Female	46	10	3	9	16	5	3	0
Unknown	0	0	0	0	0	0	0	0
White	**990**	**17**	**9**	**36**	**147**	**409**	**372**	**0**
Male	685	11	5	17	83	303	266	0
Female	305	6	4	19	64	106	106	0
Unknown	0	0	0	0	0	0	0	0
Multiple race[2]	**25**	**4**	**1**	**5**	**6**	**5**	**4**	**0**
Male	14	4	0	2	3	2	3	0
Female	11	0	1	3	3	3	1	0
Unknown	0	0	0	0	0	0	0	0
Unknown	**5**	**0**	**0**	**0**	**1**	**3**	**1**	**0**
Male	4	0	0	0	0	3	1	0
Female	1	0	0	0	1	0	0	0
Unknown	0	0	0	0	0	0	0	0

[1]Persons of Hispanic/Latino origin may be of any or multiple race.
[2]Indicates 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 #15.

Table 19. Tuberculosis Cases Among Foreign-Born Persons[1], by Hispanic Ethnicity and Non-Hispanic Race, Sex, and Age Group: United States, 2015

Race/ethnicity and sex	Age group							
	All ages	Under 5	5–14	15–24	25–44	45–64	≥65	Unknown
Total cases	**6,350**	**32**	**63**	**639**	**2,182**	**1,890**	**1,542**	**2**
Male	3,665	18	33	371	1,185	1,162	896	0
Female	2,680	14	30	268	995	727	646	0
Unknown	5	0	0	0	2	1	0	2
Hispanic/Latino[2]	**2,030**	**6**	**15**	**200**	**756**	**659**	**393**	**1**
Male	1,284	5	7	137	475	440	220	0
Female	745	1	8	63	281	219	173	0
Unknown	1	0	0	0	0	0	0	1
American Indian/Alaska Native	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**
Male	0	0	0	0	0	0	0	0
Female	1	0	0	0	1	0	0	0
Unknown	0	0	0	0	0	0	0	0
Asian	**3,033**	**12**	**24**	**265**	**857**	**941**	**933**	**1**
Male	1,698	5	15	136	408	564	570	0
Female	1,333	7	9	129	449	376	363	0
Unknown	2	0	0	0	0	1	0	1
Black/African American	**851**	**11**	**21**	**138**	**408**	**205**	**68**	**0**
Male	442	5	10	75	212	107	33	0
Female	408	6	11	63	195	98	35	0
Unknown	1	0	0	0	1	0	0	0
Native Hawaiian/Other Pacific Islander	**14**	**0**	**0**	**1**	**6**	**3**	**4**	**0**
Male	4	0	0	1	0	2	1	0
Female	10	0	0	0	6	1	3	0
Unknown	0	0	0	0	0	0	0	0
White	**259**	**2**	**1**	**17**	**80**	**57**	**102**	**0**
Male	144	2	1	11	42	35	53	0
Female	115	0	0	6	38	22	49	0
Unknown	0	0	0	0	0	0	0	0
Multiple race[3]	**141**	**1**	**0**	**14**	**67**	**23**	**36**	**0**
Male	84	1	0	8	44	13	18	0
Female	56	0	0	6	22	10	18	0
Unknown	1	0	0	0	1	0	0	0
Unknown	**21**	**0**	**2**	**4**	**7**	**2**	**6**	**0**
Male	9	0	0	3	4	1	1	0
Female	12	0	2	1	3	1	5	0
Unknown	0	0	0	0	0	0	0	0

[1]Includes persons born outside of the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).
[2]Persons of Hispanic ethnicity may be of any race or multiple race.
[3]Indicates 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 #15.

Table 20. Tuberculosis Cases Among Foreign-Born Persons[1], by WHO Region and Country of Birth[2]: United States, 2015

African Region
Total cases = 552

Algeria	2	Ethiopia	143	Niger	1
Angola	6	Gabon	0	Nigeria	74
Benin	1	Gambia	7	Rwanda	5
Botswana	0	Ghana	14	Sao Tome and Principe	0
Burkina Faso	4	Guinea	11	Senegal	10
Burundi	5	Guinea-Bissau	0	Seychelles	0
Cameroon	24	Kenya	50	Sierra Leone	18
Cape Verde	0	Lesotho	0	South Africa	12
Central African Republic	3	Liberia	40	Swaziland	0
Chad	1	Madagascar	2	Tanzania, United Republic of	3
Comoros	1	Malawi	4	Togo	5
Congo, Republic of	37	Mali	1	Uganda	12
Côte d'Ivoire	5	Mauritania	1	Zambia	8
Congo, Dem. Republic of	6	Mauritius	1	Zimbabwe	10
Equatorial Guinea	2	Mozambique	4		
Eritrea	19	Namibia	0		

Americas Region
Total cases = 2,270

Anguilla	0	Costa Rica	1	Netherland Antilles	0
Antigua and Barbuda	0	Cuba	32	Nicaragua	16
Argentina	1	Dominica	0	Panama	1
Bahamas	0	Dominican Republic	65	Paraguay	0
Barbados	0	Ecuador	70	Peru	80
Belize	1	El Salvador	109	St. Kitts and Nevis	2
Bermuda	0	Grenada	1	St. Lucia	1
Bolivia	14	Guatemala	189	St. Vincent & Grenadines	2
Brazil	20	Guyana	23	Suriname	0
British Virgin Islands	0	Haiti	166	Trinidad and Tobago	6
Canada	2	Honduras	140	Turks and Caicos Islands	0
Cayman Islands	0	Jamaica	13	Uruguay	1
Chile	2	Mexico	1,254	Venezuela	13
Colombia	45	Montserrat	0		

Eastern Mediterranean Region
Total cases = 288

Afghanistan	27	Lebanon	2	Sudan	12
Bahrain	0	Libyan Arab Jamahiriya	0	Syrian Arab Republic	2
Djibouti	3	Morocco	10	Tunisia	0
Egypt	3	Oman	0	United Arab Emirates	3
Iran, Islamic Republic of	20	Pakistan	85	West Bank and Gaza	0
Iraq	11	Qatar	1	Yemen	7
Jordan	1	Saudi Arabia	11		
Kuwait	5	Somalia	85		

Table 20. (Cont'd) Tuberculosis Cases Among Foreign-Born Persons[1], by WHO Region and Country of Birth[2]: United States, 2015

European Region
Total cases = 128

Albania	8	Greece	2	Poland	7
Andorra	0	Hungary	1	Portugal	4
Armenia	0	Iceland	0	Romania	10
Austria	0	Ireland	1	Russian Federation	20
Azerbaijan	2	Israel	0	San Marino	0
Belarus	1	Italy	6	Serbia	2
Belgium	1	Kazakhstan	1	Slovakia	0
Bosnia and Herzegovina	14	Kyrgyzstan	1	Slovenia	0
Bulgaria	0	Latvia	0	Spain	1
Croatia	2	Lithuania	0	Sweden	0
Cyprus	0	Luxembourg	0	Switzerland	0
Czech Republic	1	Macedonia, TFYR	1	Tajikistan	0
Denmark	1	Malta	0	Turkey	6
Estonia	0	Moldova, Republic of	3	Turkmenistan	0
Finland	2	Monaco	0	Ukraine	13
France	3	Montenegro	1	United Kingdom	2
Georgia	2	Netherlands	0	Uzbekistan	2
Germany	6	Norway	1		

Southeast Asia Region
Total cases = 1,000

Bangladesh	67	Korea, DPR	27	Sri Lanka	4
Bhutan	46	Maldives	0	Thailand	39
India	579	Myanmar	120	Timor-Leste	0
Indonesia	39	Nepal	79		

Western Pacific Region
Total cases = 2,067

Australia	0	Kiribati	1	Philippines	820
Brunei Darussalam	0	Korea, Republic of	94	Samoa	0
Cambodia	86	Lao PDR	66	Singapore	0
China	426	Malaysia	8	Solomon Islands	0
China, Hong Kong SAR	22	Mongolia	11	Tokelau	0
China, Macao SAR	1	Nauru	0	Tonga	4
Cook Islands	0	New Caledonia	0	Tuvalu	0
Fiji	2	New Zealand	0	Vanuatu	1
French Polynesia	0	Niue	0	Vietnam	519
Japan	4	Papua New Guinea	2	Wallis and Futuna	0

Other[3]
Total Cases = 28

Unknown
Total cases = 17

[1]Includes persons born outside of the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).
[2]Country as reported by patient.
[3]Includes country codes currently reported via the National Tuberculosis Surveillance System that are not represented by WHO member states.
Note: Regional composition of countries based on WHO Report *Global Tuberculosis Report 2015,* World Health Organization (http://www.who.int/tb/publications/global_report/en/).
Korea, DPR, Democratic People's Republic of Korea.
Lao PDR, Lao People's Democratic Republic.
Macedonia TFYR, the former Yugoslav Republic of Macedonia.
WHO, World Health Organization.

Table 21. Tuberculosis Risk Factors[1], by Origin and Race/Ethnicity: United States, 2015

		Total eligible cases[2]	MDR patient contact		Missed contact		Infectious TB patient contact		Incomplete LTBI therapy		TNF-α Inhibitors		Post-organ transplantation		Diabetes mellitus		Renal disease		Immuno-suppression		Other		None		Unknown	
			No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
	United States	**9,536**	**13**	**(0.1)**	**66**	**(0.7)**	**701**	**(7.4)**	**202**	**(2.1)**	**52**	**(0.5)**	**39**	**(0.4)**	**1,485**	**(15.6)**	**199**	**(2.1)**	**406**	**(4.3)**	**2,186**	**(22.9)**	**4,246**	**(44.5)**	**681**	**(7.1)**
U.S.-born	**U.S.-born total**	**3,186**	**7**	**(0.2)**	**53**	**(1.7)**	**472**	**(14.8)**	**91**	**(2.9)**	**20**	**(0.6)**	**16**	**(0.5)**	**374**	**(11.7)**	**63**	**(2.0)**	**164**	**(5.1)**	**844**	**(26.5)**	**1,267**	**(39.8)**	**135**	**(4.2)**
	American Indian/ Alaska Native	140	0	(0)	8	(5.7)	46	(32.9)	9	(6.4)	1	(0.7)	0	(0)	19	(13.6)	3	(2.1)	4	(2.9)	21	(15.0)	56	(40.0)	6	(4.3)
	Asian	137	0	(0)	0	(0)	32	(23.4)	3	(2.2)	0	(0)	0	(0)	6	(4.4)	0	(0)	2	(1.5)	22	(16.1)	66	(48.2)	9	(6.6)
	Black/African American	1,143	1	(0.1)	26	(2.3)	156	(13.6)	46	(4.0)	4	(0.3)	5	(0.4)	139	(12.2)	33	(2.9)	45	(3.9)	325	(28.4)	443	(38.8)	54	(4.7)
	Hispanic/Latino[3]	658	4	(0.6)	7	(1.1)	122	(18.5)	9	(1.4)	3	(0.5)	3	(0.5)	84	(12.8)	7	(1.1)	19	(2.9)	155	(23.6)	264	(40.1)	33	(5.0)
	Multiple races[4]	25	0	(0)	0	(0)	3	(12.0)	2	(8.0)	0	(0)	0	(0)	4	(16.0)	0	(0)	1	(4.0)	6	(24.0)	10	(40.0)	1	(4.0)
	Native Hawaiian/ Other Pacific Islander	88	0	(0)	0	(0)	34	(38.6)	0	(0)	0	(0)	0	(0)	17	(19.3)	0	(0)	1	(1.1)	12	(13.6)	28	(31.8)	0	(0)
	White	990	2	(0.2)	12	(1.2)	79	(8.0)	22	(2.2)	12	(1.2)	8	(0.8)	104	(10.5)	19	(1.9)	92	(9.3)	302	(30.5)	398	(40.2)	32	(3.2)
	Unknown	5	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(20.0)	1	(20.0)	0	(0)	1	(20.0)	2	(40.0)	0	(0)

Table 21. (Con't) Tuberculosis Risk Factors[1], by Origin and Race/Ethnicity: United States, 2015

		Total eligible cases[2]	MDR patient contact		Missed contact		Infectious TB patient contact		Incomplete LTBI therapy		TNF-α inhibitors		Post-organ transplantation		Diabetes mellitus		Renal disease		Immuno-suppression		Other		None		Unknown	
			No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
	Foreign-born total	**6,350**	**6**	**(0.1)**	**13**	**(0.2)**	**229**	**(3.6)**	**111**	**(1.7)**	**32**	**(0.5)**	**23**	**(0.4)**	**1111**	**(17.5)**	**136**	**(2.1)**	**242**	**(3.8)**	**1342**	**(21.1)**	**2979**	**(46.9)**	**546**	**(8.6)**
Foreign-born	American Indian/ Alaska Native	1	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
	Asian	3,033	3	(0.1)	6	(0.2)	100	(3.3)	52	(1.7)	18	(0.6)	15	(0.5)	569	(18.8)	86	(2.8)	124	(4.1)	654	(21.6)	1358	(44.8)	291	(9.6)
	Black/African American	851	0	(0)	2	(0.2)	29	(3.4)	33	(3.9)	2	(0.2)	2	(0.2)	55	(6.5)	7	(0.8)	24	(2.8)	160	(18.8)	484	(56.9)	86	(10.1)
	Hispanic/Latino[3]	2,030	3	(0.1)	4	(0.2)	86	(4.2)	21	(1.0)	9	(0.4)	5	(0.2)	430	(21.2)	41	(2.0)	78	(3.8)	414	(20.4)	937	(46.2)	127	(6.3)
	Multiple races[4]	141	0	(0)	0	(0)	3	(2.1)	0	(0)	1	(0.7)	0	(0)	22	(15.6)	0	(0)	3	(2.1)	51	(36.2)	61	(43.3)	8	(5.7)
	Native Hawaiian/ Other Pacific Islander	14	0	(0)	0	(0)	2	(14.3)	0	(0)	0	(0)	0	(0)	1	(7.1)	0	(0)	0	(0)	3	(21.4)	7	(50.0)	1	(7.1)
	White	259	0	(0)	1	(0.4)	8	(3.1)	4	(1.5)	2	(0.8)	1	(0.4)	32	(12.4)	2	(0.8)	13	(5.0)	57	(22.0)	123	(47.5)	27	(10.4)
	Unknown	21	0	(0)	0	(0)	1	(4.8)	1	(4.8)	0	(0)	0	(0)	2	(9.5)	0	(0)	0	(0)	3	(14.3)	8	(38.1)	6	(28.6)

[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 21 cases with unknown origin.
[3]Persons of Hispanic/Latino origin may be of any or multiple race.
[4]Indicates 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 22. Epidemiologic Characteristics of Cases in GENType Clusters[1], by Alert Levels Based on Log-Likelihood Ratios (LLR)[2]: United States, 2013–2015

Case characteristics	Unique		Clustered		Alert levels for clustered cases[3]					
					Non-alerted (LLR <5)		Medium (LLR 5–<10)		High (LLR ≥10)	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Total	**16,540**	**(78.5)**	**4,529**	**(21.5)**	**2,524**	**(55.7)**	**1,117**	**(24.7)**	**888**	**(19.6)**
Race and ethnicity										
Hispanic/Latino	4,546	(76.4)	1,402	(23.6)	860	(61.3)	373	(26.6)	169	(12.1)
American Indian/Alaska Native	148	(46.7)	169	(53.3)	16	(9.5)	32	(18.9)	121	(71.6)
Asian	6,070	(86.5)	947	(13.5)	797	(84.2)	91	(9.6)	59	(6.2)
Black/African American	2,985	(69.6)	1,303	(30.4)	541	(41.5)	364	(27.9)	398	(30.5)
Native Hawaiian/Other Pacific Islander	88	(52.4)	80	(47.6)	24	(30.0)	35	(43.8)	21	(26.3)
White	2,347	(80.2)	579	(19.8)	253	(43.7)	212	(36.6)	114	(19.7)
Multiple race	318	(88.1)	43	(11.9)	30	(69.8)	8	(18.6)	5	(11.6)
Unknown or missing	38	(86.4)	6	(13.6)	3	(50.0)	2	(33.3)	1	(16.7)
Age group (years)										
0–4	78	(38.6)	124	(61.4)	56	(45.2)	41	(33.1)	27	(21.8)
5–14	108	(59.3)	74	(40.7)	30	(40.5)	19	(25.7)	25	(33.8)
15–24	1,589	(73.8)	564	(26.2)	317	(56.2)	139	(24.7)	108	(19.2)
25–44	5,042	(78.0)	1,420	(22.0)	778	(54.8)	375	(26.4)	267	(18.8)
45–64	5,005	(74.7)	1,692	(25.3)	869	(51.4)	432	(25.5)	391	(23.1)
≥65	4,717	(87.8)	655	(12.2)	474	(72.4)	111	(17.0)	70	(10.7)
Unknown	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)
Origin of birth										
U.S-born	4,415	(64.0)	2,485	(36.0)	956	(38.5)	773	(31.1)	756	(30.4)
Foreign-born	12,107	(85.6)	2,030	(14.4)	1,562	(77.0)	343	(16.9)	125	(6.2)
Unknown or missing	18	(56.3)	14	(43.8)	6	(42.9)	1	(7.1)	7	(50.0)
Disease site										
Pulmonary only	11,764	(76.5)	3,611	(23.5)	1,966	(54.4)	915	(25.3)	730	(20.2)
Extrapulmonary	2,939	(86.8)	449	(13.3)	300	(66.8)	87	(19.4)	62	(13.8)
Both	1,832	(79.7)	467	(20.3)	256	(54.8)	115	(24.6)	96	(20.6)
Unknown	5	(71.4)	2	(28.6)	2	(100.0)	0	(0)	0	(0)
Sputum smear										
Positive	7,773	(75.6)	2,503	(24.4)	1,363	(54.5)	651	(26.0)	489	(19.5)
Negative	6,669	(80.7)	1,600	(19.4)	923	(57.7)	359	(22.4)	318	(19.9)
Not done	2,087	(83.1)	425	(16.9)	237	(55.8)	107	(25.2)	81	(19.1)
Unknown or missing	11	(91.7)	1	(8.3)	1	(100.0)	0	(0)	0	(0)
Cavitary disease										
Yes	174	(80.2)	43	(19.8)	25	(58.1)	12	(27.9)	6	(14.0)
No	1,289	(78.4)	356	(21.6)	191	(53.7)	90	(25.3)	75	(21.1)
Unknown or missing	369	(84.4)	68	(15.6)	40	(58.8)	13	(19.1)	15	(22.1)

Table 22. (Con't) Epidemiologic Characteristics of Cases in GENType Clusters[1], by Alert Levels Based on Log-Likelihood Ratios (LLR)[2]: United States, 2013–2015

Case characteristics	Unique		Clustered		Alert levels for clustered cases[3]					
					Non-alerted (LLR <5)		Medium (LLR 5–<10)		High (LLR ≥10)	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Homeless within past year										
Yes	626	(50.2)	620	(49.8)	213	(34.4)	154	(24.8)	253	(40.8)
No	15,806	(80.3)	3,889	(19.8)	2,299	(59.1)	957	(24.6)	633	(16.3)
Unknown or missing	108	(84.4)	20	(15.6)	12	(60.0)	6	(30.0)	2	(10.0)
Excess alcohol use within the past year										
Yes	1,472	(60.7)	955	(39.4)	377	(39.5)	280	(29.3)	298	(31.2)
No	14,857	(80.9)	3,516	(19.1)	2,113	(60.1)	822	(23.4)	581	(16.5)
Unknown or missing	211	(78.4)	58	(21.6)	34	(58.6)	15	(25.9)	9	(15.5)
Injecting illicit drug use within past year										
Yes	184	(55.6)	147	(44.4)	67	(45.6)	40	(27.2)	40	(27.2)
No	16,188	(78.9)	4,323	(21.1)	2,423	(56.1)	1,062	(24.6)	838	(19.4)
Unknown or missing	168	(74.0)	59	(26.0)	34	(57.6)	15	(25.4)	10	(16.9)
Noninjecting illicit drug use Within past year										
Yes	883	(55.4)	711	(44.6)	277	(39.0)	205	(28.8)	229	(32.2)
No	15,485	(80.5)	3,762	(19.6)	2,217	(58.9)	895	(23.8)	650	(17.3)
Unknown or missing	172	(75.4)	56	(24.6)	30	(53.6)	17	(30.4)	9	(16.1)
Resident of a correctional facility at the time of diagnosis										
Yes	524	(70.2)	222	(29.8)	103	(46.4)	56	(25.2)	63	(28.4)
No	15,975	(78.8)	4,298	(21.2)	2,416	(56.2)	1,059	(24.6)	823	(19.2)
Unknown or missing	41	(82.0)	9	(18.0)	5	(55.6)	2	(22.2)	2	(22.2)
HIV status										
Positive	832	(71.6)	330	(28.4)	170	(51.5)	78	(23.6)	82	(24.9)
Negative	13,787	(78.3)	3,814	(21.7)	2,110	(55.3)	956	(25.1)	748	(19.6)
Refused testing	562	(84.3)	105	(15.7)	70	(66.7)	20	(19.1)	15	(14.3)
Testing not offered	1,003	(81.2)	232	(18.8)	140	(60.3)	56	(24.1)	36	(15.5)
Unknown, missing or indeterminate	356	(88.1)	48	(11.9)	34	(70.8)	7	(14.6)	7	(14.6)
Multidrug-resistant TB										
Yes	237	(87.5)	34	(12.6)	30	(88.2)	2	(5.9)	2	(5.9)
No	15,954	(78.3)	4,410	(21.7)	2,453	(55.6)	1,088	(24.7)	869	(19.7)
Unknown or missing	349	(80.4)	85	(19.6)	41	(48.2)	27	(31.8)	17	(20.0)

[1]GENType clusters have two or more cases with matching spoligotype and 24-locus mycobacterial interspersed repetitive unit-variable number tandem repeat type within a county during the specified 3-year time period.
[2]Alert levels are based on a log-likelihood ratio (LLR), which calculates the geographic concentration of a genotype in a county compared to the rest of the country during a 3-year period.
[3]There were 4,529 cases in 1,464 alerted clusters: 888 cases were in 83 (5.7%) high alert clusters; 1,117 cases were in 345 (23.6%) medium alert clusters, and 2,524 cases were in 1,036 (70.8%) nonalert clusters.
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 #36

Table 23. Tuberculosis Cases, by Cluster Status[1]: United States, 2013–2015

Cluster status	Cases	
	No.	(%)
Total	**21,069**	**(100.0)**
Unique[2]	16,540	(78.5)
Clustered[3]	4,529	(21.5)

[1]Cluster status indicates whether a case is unique or clustered within a county for cases with a valid GENType.
[2]A unique case is a case with a GENType (spoligotype and 24 locus mycobacterial interspersed repetitive unit-variable number tandem repeat type) that does not match any other case in that county during the specified three-year time period.
[3]Clustered cases are defined as two or more cases with same GENType within a county during the specified 3-year time period.
See Surveillance Slide #34.

Table 24. Tuberculosis Cases and Clusters, by Cluster Size[1]: United States, 2013–2015

Cluster Size	Clusters		Clustered cases[2]	
	No.	(%)[3]	No.	(%)[4]
Total	**1,464**	**(100.0)**	**4,529**	**(100.0)**
2-case cluster	958	(65.4)	1,916	(42.3)
3-case cluster	233	(15.9)	699	(15.4)
4-case cluster	115	(7.9)	460	(10.2)
5-case cluster	48	(3.3)	240	(5.3)
6-case cluster	31	(2.1)	186	(4.1)
7-case cluster	14	(1.0)	98	(2.2)
8-case cluster	17	(1.2)	136	(3.0)
9-case cluster	10	(0.7)	90	(2.0)
≥10-case cluster	38	(2.6)	704	(15.5)

[1]Clusters 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.
[2]Cases 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.
[3]Denominator is total number of clusters.
[4]Denominator is total number of cases.
See Surveillance Slide #35.

Table 25. Twenty-Five Most Frequently Reported GENTypes[1] Among Genotyped Tuberculosis Cases: United States, 2013–2015

GENType	PCRType[2]	Spoligotype	24-locus MIRU-VNTR		TB Cases with GENType[3]		Reporting Areas[4] with GENType
					No.	(%)	No.
G00010	PCR00002	000000000003771	223325173533	444534423428	177	(0.8)	21
G00012	PCR00002	000000000003771	223325173533	445644423328	164	(0.8)	26
G00016	PCR00041	677777477413771	254326223432	14a843263217	136	(0.6)	23
G05056	PCR00041	677777477413771	254326223432	14a943263217	121	(0.6)	27
G00013	PCR00016	700036777760731	222325143223	434534412334	87	(0.4)	20
G00017	PCR00803	000000000003771	222325173533	445644423328	73	(0.3)	17
G00011	PCR00015	777776777760601	224325153323	444234423337	71	(0.3)	21
G10345	PCR00160	777776777760601	224325143323	244234423337	66	(0.3)	7
G00019	PCR00309	000000000003771	222325173543	445644423328	65	(0.3)	18
G05625	PCR00231	700036777760771	222325133223	234634413334	64	(0.3)	6
G00015	PCR11884	000000000003771	223326171531	445544423228	63	(0.3)	11
G12500	PCR00617	777777607760771	224226153321	543424115228	63	(0.3)	11
G11610	PCR08263	777777377560771	223425153322	242524223324	57	(0.3)	4
G00617	PCR00001	000000000003771	223321153643	344334233339	52	(0.2)	13
G01521	PCR01201	000000000003771	223325173534	244544423239	51	(0.2)	5
G10508	PCR00015	777776777760601	224325153323	43-234422333	49	(0.2)	6
G00020	PCR01328	776377777760751	333325153222	351544223229	48	(0.2)	7
G00846	PCR00093	000000000003771	223325163533	445644423328	48	(0.2)	16
G00018	PCR00036	000000000003771	223425173563	344644623337	47	(0.2)	13
G00769	PCR00224	000000000003771	223325163333	444344223437	46	(0.2)	9
G08735	PCR00143	777000377760771	225125113322	143134423337	46	(0.2)	19
G00014	PCR00051	776037777760771	223125163324	242434223525	44	(0.2)	10
G01363	PCR00002	000000000003771	223325173533	445544423328	43	(0.2)	15
G00734	PCR00091	000000000003771	223325153533	445644423328	38	(0.2)	16
G05637	PCR00769	700036777760771	222325143223	234634413334	36	(0.2)	10

[1]GENType is defined as a unique combination of spoligotype and 24-locus mycobacterial interspersed repetitive unit-variable number tandem repeat (MIRU-VNTR) type.
[2]PCRType is defined as a unique combination of spoligotype and 12-locus MIRU-VNTR; every GENType has a corresponding PCRType.
[3]Among 21,153 cases with GENTypes during 2013–2015.
[4]This 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 26.

Table 26. Five Most Frequently Reported GENTypes[1] Among Genotyped Tuberculosis Cases: United States'-Affiliated Areas[2], 2013–2015

GENType	PCRType[3]	Spoligotype	24-locus MIRU-VNTR		TB Cases with GENType[4]		Reporting Areas with GENType
					No.	(%)	No.
G00017	PCR00803	000000000003771	222325173533	445644423328	124	(21.9)	4
G01284	PCR00002	000000000003771	223325173533	44474442334A	12	(2.1)	3
G01967	PCR03284	000000007720771	225413153223	133532423434	12	(2.1)	1
G04942	PCR00041	677777477413771	254326223432	149843263217	12	(2.1)	3
G04701	PCR00117	677777477413771	254326223422	147843263217	10	(1.7)	2

[1]GENType is defined as a unique combination of spoligotype and 24-locus mycobacterial interspersed repetitive unit-variable number tandem repeat (MIRU-VNTR) type.
[2]The 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.
[3]PCRType is defined as a unique combination of spoligotype and 12-locus MIRU-VNTR; every GENType has a corresponding PCRType.
[4]Among culture-positive genotyped TB cases during 2013–2015 (n = 553).

Morbidity Tables 2013

Table 27. Tuberculosis Cases and Percentages by Reason Tuberculosis Therapy Was Stopped and Type of Move: United States, 2013

Type of move	Total cases	Completed therapy		Adverse event		Lost		Refused		Died		Other[4]		Unknown	
	No.	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Moved in state[1]	320	268	(83.8)	1	(0.3)	8	(2.5)	1	(0.3)	14	(4.4)	27	(8.4)	1	(0.3)
Moved out of state[2]	293	239	(81.6)	0	(0)	17	(5.8)	3	(1.0)	5	(1.7)	25	(8.5)	4	(1.4)
Moved out of country[3]	367	147	(40.1)	3	(0.8)	21	(5.7)	4	(1.1)	7	(1.9)	167	(45.5)	17	(4.6)
Did not move	8,033	7,310	(91.0)	35	(0.4)	52	(0.6)	54	(0.7)	536	(6.7)	26	(0.3)	20	(0.2)
Unknown if moved	273	168	(61.5)	1	(0.4)	1	(0.4)	4	(1.5)	18	(6.6)	6	(2.2)	75	(27.5)

[1]Includes patients who were alive at diagnosis, started on treatment, and moved in state.
[2]Includes patients who were alive at diagnosis, started on treatment, and moved out of state.
[3]Includes patients who were alive at diagnosis, started on treatment, and moved out of the country; transnational referrals were provided for 230 (62.7%) TB patients who moved out of the country.
[4]Therapy was discontinued for a known reason other than those listed (e.g., patient moved outside the United States, or patient moved from state A to state B, and although state A notified state B, state B never followed up).
Note: There may be differences in the way jurisdictions determine treatment completion for patients who moved out of the country; some reporting jurisdictions may be classifying all patients who moved out of the country as 'other' for reason therapy stopped.
Moving in and out of state or country is not mutually exclusive. Two patients moved twice, and one patient moved but did not indicate moving in state, out of state or out of country.

Table 28. Deaths Among Reported Tuberculosis Cases, by Age Group: United States, 2013

	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	
Age group	No.	No.	(%)	No.	No.	(%)	No.	(%)	No.	(%)	No.	No.	(%)	No.	(%)	No.	(%)
Total	**807**	**285**	**(35.3)**	**211**	**60**	**(28.4)**	**111**	**(52.6)**	**40**	**(19.0)**	**596**	**225**	**(37.8)**	**288**	**(48.3)**	**83**	**(13.9)**
0–4	5	4	(80.0)	3	2	(66.7)	1	(33.3)	0	(0)	2	2	(100.0)	0	(0)	0	(0)
5–14	0	0	…	0	0	…	0	…	0	…	0	0	…	0	…	0	…
15–24	8	5	(62.5)	2	2	(100.0)	0	(0)	0	(0)	6	3	(50.0)	2	(33.3)	1	(16.7)
25–44	61	30	(49.2)	24	13	(54.2)	5	(20.8)	6	(25.0)	37	17	(45.9)	15	(40.5)	5	(13.5)
45–64	234	91	(38.9)	71	23	(32.4)	38	(53.5)	10	(14.1)	163	68	(41.7)	79	(48.5)	16	(9.8)
≥65	499	155	(31.1)	111	20	(18.0)	67	(60.4)	24	(21.6)	388	135	(34.8)	192	(49.5)	61	(15.7)

[1]Includes patients who were dead at diagnosis or died during therapy, for which TB or TB therapy was indicated as a cause of death.
[2]Eight patient deaths during therapy were related to TB therapy.
Note: Ellipses (...) indicate that the percentage cannot be calculated and the denominator is 0.

Table 29. Sputum Culture Conversion, by Age Group: United States, 2013

Age group	Total sputum culture positive[1]	Sputum culture conversion documented[2]		Sputum culture conversion not documented[3]		Sputum culture conversion unknown		Reason sputum culture conversion not documented													
								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.	(%)
Total	**5,230**	**4,598**	**(87.9)**	**569**	**(10.9)**	**63**	**(1.2)**	**45**	**(7.9)**	**114**	**(20.0)**	**225**	**(39.5)**	**11**	**(1.9)**	**22**	**(3.9)**	**134**	**(23.6)**	**18**	**(3.2)**
0-4	9	4	(44.4)	5	(55.6)	0	(0)	1	(20.0)	0	(0)	2	(40.0)	0	(0)	0	(0)	2	(40.0)	0	(0)
5-14	42	34	(81.0)	8	(19.0)	0	(0)	3	(37.5)	4	(50.0)	0	(0)	0	(0)	0	(0)	1	(12.5)	0	(0)
15-24	615	553	(89.9)	56	(9.1)	6	(1.0)	3	(5.4)	22	(39.3)	3	(5.4)	1	(1.8)	4	(7.1)	18	(32.1)	5	(8.9)
25-44	1,657	1,506	(90.9)	127	(7.7)	24	(1.4)	9	(7.1)	34	(26.8)	17	(13.4)	3	(2.4)	7	(5.5)	51	(40.2)	6	(4.7)
45-64	1,661	1,496	(90.1)	147	(8.9)	18	(1.1)	14	(9.5)	24	(16.3)	67	(45.6)	3	(2.0)	8	(5.4)	28	(19.0)	3	(2.0)
≥65	1,246	1,005	(80.7)	226	(18.1)	15	(1.2)	15	(6.6)	30	(13.3)	136	(60.2)	4	(1.8)	3	(1.3)	34	(15.0)	4	(1.8)

[1]Among persons who were alive at diagnosis and had positive sputum culture.
[2]Among persons who had sputum culture conversion documented at any time.
[3]Among persons who were alive at diagnosis, had positive culture, and did not have documented culture conversion (excludes patients with unknown culture conversion).

Morbidity Tables
Reporting Areas, 2015

Table 30. Tuberculosis Cases and Case Rates per 100,000 Population: Reporting Areas, 2015 and 2014

Reporting Area	Cases		Case rates		Rank according to rate		Population estimates July 1, 2015
	2015	2014	2015	2014	2015	2014	
United States	9,557	9,406	3.0	2.9	—	—	321,418,820
Alabama	119	133	2.4	2.7	21	14	4,858,979
Alaska	68	62	9.2	8.4	1	2	738,432
Arizona	198	193	2.9	2.9	13	12	6,828,065
Arkansas	90	93	3.0	3.1	8	9	2,978,204
California	2,133	2,134	5.4	5.5	3	3	39,144,818
Colorado	73	64	1.3	1.2	37	39	5,456,574
Connecticut	70	60	1.9	1.7	28	31	3,590,886
Delaware	22	22	2.3	2.4	22	22	945,934
District of Columbia[1]	33	32	4.9	4.8	—	—	672,228
Florida	602	595	3.0	3.0	9	10	20,271,272
Georgia	324	335	3.2	3.3	7	7	10,214,860
Hawaii	127	136	8.9	9.6	2	1	1,431,603
Idaho	11	11	0.7	0.7	49	47	1,654,930
Illinois	343	320	2.7	2.5	17	18	12,859,995
Indiana	116	108	1.8	1.6	30	32	6,619,680
Iowa	38	54	1.2	1.7	42	30	3,123,899
Kansas	36	40	1.2	1.4	39	36	2,911,641
Kentucky	67	80	1.5	1.8	34	29	4,425,092
Louisiana	119	121	2.5	2.6	18	17	4,670,724
Maine	18	14	1.4	1.1	36	42	1,329,328
Maryland	176	198	2.9	3.3	11	8	6,006,401
Massachusetts	192	199	2.8	2.9	15	11	6,794,422
Michigan	131	105	1.3	1.1	38	40	9,922,576
Minnesota	150	147	2.7	2.7	16	15	5,489,594
Mississippi	74	74	2.5	2.5	20	19	2,992,333
Missouri	92	80	1.5	1.3	35	38	6,083,672
Montana	9	6	0.9	0.6	47	48	1,032,949
Nebraska	33	38	1.7	2.0	31	25	1,896,190
Nevada	85	74	2.9	2.6	10	16	2,890,845
New Hampshire	13	11	1.0	0.8	46	45	1,330,608
New Jersey	326	307	3.6	3.4	6	6	8,958,013
New Mexico	47	50	2.3	2.4	23	20	2,085,109
New York	765	784	3.9	4.0	5	5	19,795,791
North Carolina	199	195	2.0	2.0	26	27	10,042,802
North Dakota	9	15	1.2	2.0	44	24	756,927
Ohio	143	156	1.2	1.3	41	37	11,613,423
Oklahoma	67	59	1.7	1.5	32	35	3,911,338
Oregon	76	77	1.9	1.9	29	28	4,028,977
Pennsylvania	200	208	1.6	1.6	33	34	12,802,503
Rhode Island	30	21	2.8	2.0	14	26	1,056,298
South Carolina	104	79	2.1	1.6	24	33	4,896,146
South Dakota	17	8	2.0	0.9	27	43	858,469
Tennessee	131	151	2.0	2.3	25	23	6,600,299
Texas	1,334	1,269	4.9	4.7	4	4	27,469,114
Utah	37	31	1.2	1.1	40	41	2,995,919
Vermont	7	2	1.1	0.3	45	50	626,042
Virginia	212	198	2.5	2.4	19	21	8,382,993
Washington	208	194	2.9	2.7	12	13	7,170,351
West Virginia	10	13	0.5	0.7	50	46	1,844,128
Wisconsin	69	48	1.2	0.8	43	44	5,771,337
Wyoming	4	2	0.7	0.3	48	49	586,107
American Samoa[1,2]	4	1	7.4	1.8	—	—	54,343
Fed. States of Micronesia[1,2]	103	170	97.9	160.9	—	—	105,216
Guam[1,2]	76	56	47.0	34.8	—	—	161,785
Marshall Islands[1,2]	137	152	189.8	214.1	—	—	72,191
N. Mariana Islands[1,2]	27	25	51.6	48.6	—	—	52,344
Puerto Rico[1,2]	52	44	1.4	1.2	—	—	3,598,357
Republic of Palau[1,2]	14	14	65.8	66.1	—	—	21,265
U.S. Virgin Islands[1,2]	—	—	—	—	—	—	103,574

[1]Not ranked with the states. See Table 31 for District of Columbia ranking among states.
[2]Not included in U.S. totals.

Note: Denominators for computing 2014 and 2015 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, 2015) (http://www.census.gov/popest/data/national/totals/2015/index.html) and totals for other U.S.-affiliated areas were obtained from the International Data Base (http://www.census.gov/population/international/data/idb/informationGateway.php); accessed July 20, 2016.
See Technical Notes.
See Surveillance Slide #4.

Table 31. Tuberculosis Cases and Case Rates per 100,000 Population, Ranked and Grouped by Number of Cases: United States and the District of Columbia, 2015 and 2014

Reporting area	2015		2014		2014–2015 % change		Overall rank by 2015 rate
	No.	Rate	No.	Rate	No.	Rate	
Total	**9,557**	**3.0**	**9,406**	**2.9**	**1.6**	**3.4**	**—**
≥500 cases in 2015							
California	2,133	5.4	2,134	5.5	–0.0	–1.8	3
Texas	1,334	4.9	1,269	4.7	5.1	4.3	4
New York[1]	765	3.9	784	4.0	–2.4	–2.5	5
Florida	602	3.0	595	3.0	1.2	0.0	9
100–499 cases in 2015							
Illinois	343	2.7	320	2.5	7.2	8.0	17
New Jersey	326	3.6	307	3.4	6.2	5.9	6
Georgia	324	3.2	335	3.3	–3.3	–3.0	7
Virginia	212	2.5	198	2.4	7.1	4.2	19
Washington	208	2.9	194	2.7	7.2	7.4	12
Pennsylvania	200	1.6	208	1.6	–3.8	0.0	33
North Carolina	199	2.0	195	2.0	2.1	0.0	26
Arizona	198	2.9	193	2.9	2.6	0.0	13
Massachusetts	192	2.8	199	2.9	–3.5	–3.4	15
Maryland	176	2.9	198	3.3	–11.1	–12.1	11
Minnesota	150	2.7	147	2.7	2.0	0.0	16
Ohio	143	1.2	156	1.3	–8.3	–7.7	41
Michigan	131	1.3	105	1.1	24.8	18.2	38
Tennessee	131	2.0	151	2.3	–13.2	–13.0	25
Hawaii	127	8.9	136	9.6	–6.6	–7.3	2
Alabama	119	2.4	133	2.7	–10.5	–11.1	21
Louisiana	119	2.5	121	2.6	–1.7	–3.8	18
Indiana	116	1.8	108	1.6	7.4	12.5	30
South Carolina	104	2.1	79	1.6	31.6	31.3	24
<100 cases in 2015							
Missouri	92	1.5	80	1.3	15.0	15.4	35
Arkansas	90	3.0	93	3.1	–3.2	–3.2	8
Nevada	85	2.9	74	2.6	14.9	11.5	10
Oregon	76	1.9	77	1.9	–1.3	0.0	29
Mississippi	74	2.5	74	2.5	0.0	0.0	20
Colorado	73	1.3	64	1.2	14.1	8.3	37
Connecticut	70	1.9	60	1.7	16.7	11.8	28
Wisconsin	69	1.2	48	0.8	43.8	50.0	43
Alaska	68	9.2	62	8.4	9.7	9.5	1
Kentucky	67	1.5	80	1.8	–16.3	–16.7	34
Oklahoma	67	1.7	59	1.5	13.6	13.3	32
New Mexico	47	2.3	50	2.4	–6.0	–4.2	23
Iowa	38	1.2	54	1.7	–29.6	–29.4	42
Utah	37	1.2	31	1.1	19.4	9.1	40
Kansas	36	1.2	40	1.4	–10.0	–14.3	39
District of Columbia	33	4.9	32	4.8	3.1	2.1	—
Nebraska	33	1.7	38	2.0	–13.2	–15.0	31
Rhode Island	30	2.8	21	2.0	42.9	40.0	14
Delaware	22	2.3	22	2.4	0.0	–4.2	22
Maine	18	1.4	14	1.1	28.6	27.3	36
South Dakota	17	2.0	8	0.9	112.5	122.2	27
New Hampshire	13	1.0	11	0.8	18.2	25.0	46
Idaho	11	0.7	11	0.7	0.0	0.0	49
West Virginia	10	0.5	13	0.7	–23.1	–28.6	50
Montana	9	0.9	6	0.6	50.0	50.0	47
North Dakota	9	1.2	15	2.0	–40.0	–40.0	44
Vermont	7	1.1	2	0.3	250.0	266.7	45
Wyoming	4	0.7	2	0.3	100.0	133.3	48

[1]Includes New York City.

Note: Denominators for computing 2014 and 2015 rates for states and the District of Columbia 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, 2015) (http://www.census.gov/popest/data/national/totals/2015/index.html); accessed July 25, 2016.

See Table 30 for ranking of states without the District of Columbia.

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Table 32. Tuberculosis Cases and Percentages, by Age Group: Reporting Areas, 2015

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	**9,557**	**244**	**(2.6)**	**196**	**(2.1)**	**935**	**(9.8)**	**2,858**	**(29.9)**	**3,028**	**(31.7)**	**2,294**	**(24.0)**	**2**	**(0)**
Alabama	119	1	(0.8)	2	(1.7)	8	(6.7)	32	(26.9)	46	(38.7)	30	(25.2)	0	(0)
Alaska	68	4	(5.9)	9	(13.2)	4	(5.9)	14	(20.6)	26	(38.2)	11	(16.2)	0	(0)
Arizona	198	8	(4.0)	6	(3.0)	24	(12.1)	56	(28.3)	57	(28.8)	47	(23.7)	0	(0)
Arkansas	90	12	(13.3)	0	(0)	10	(11.1)	24	(26.7)	25	(27.8)	19	(21.1)	0	(0)
California	2,133	36	(1.7)	32	(1.5)	186	(8.7)	507	(23.8)	692	(32.4)	680	(31.9)	0	(0)
Colorado	73	5	(6.8)	2	(2.7)	5	(6.8)	20	(27.4)	21	(28.8)	20	(27.4)	0	(0)
Connecticut	70	0	(0)	0	(0)	6	(8.6)	31	(44.3)	22	(31.4)	11	(15.7)	0	(0)
Delaware	22	2	(9.1)	0	(0)	2	(9.1)	9	(40.9)	5	(22.7)	3	(13.6)	1	(4.5)
District of Columbia	33	2	(6.1)	0	(0)	3	(9.1)	12	(36.4)	6	(18.2)	10	(30.3)	0	(0)
Florida	602	10	(1.7)	11	(1.8)	54	(9.0)	172	(28.6)	245	(40.7)	110	(18.3)	0	(0)
Georgia	324	15	(4.6)	3	(0.9)	26	(8.0)	110	(34.0)	124	(38.3)	46	(14.2)	0	(0)
Hawaii	127	4	(3.1)	4	(3.1)	22	(17.3)	26	(20.5)	37	(29.1)	34	(26.8)	0	(0)
Idaho	11	1	(9.1)	1	(9.1)	0	(0)	6	(54.5)	0	(0)	3	(27.3)	0	(0)
Illinois	343	9	(2.6)	4	(1.2)	27	(7.9)	101	(29.4)	105	(30.6)	97	(28.3)	0	(0)
Indiana	116	3	(2.6)	1	(0.9)	26	(22.4)	41	(35.3)	26	(22.4)	19	(16.4)	0	(0)
Iowa	38	2	(5.3)	0	(0)	7	(18.4)	18	(47.4)	8	(21.1)	3	(7.9)	0	(0)
Kansas	36	0	(0)	1	(2.8)	5	(13.9)	12	(33.3)	14	(38.9)	4	(11.1)	0	(0)
Kentucky	67	1	(1.5)	2	(3.0)	7	(10.4)	21	(31.3)	24	(35.8)	12	(17.9)	0	(0)
Louisiana	119	3	(2.5)	2	(1.7)	11	(9.2)	37	(31.1)	50	(42.0)	16	(13.4)	0	(0)
Maine	18	1	(5.6)	1	(5.6)	4	(22.2)	5	(27.8)	3	(16.7)	4	(22.2)	0	(0)
Maryland	176	3	(1.7)	4	(2.3)	23	(13.1)	66	(37.5)	46	(26.1)	34	(19.3)	0	(0)
Massachusetts	192	2	(1.0)	5	(2.6)	14	(7.3)	61	(31.8)	59	(30.7)	51	(26.6)	0	(0)
Michigan	131	2	(1.5)	1	(0.8)	17	(13.0)	43	(32.8)	35	(26.7)	33	(25.2)	0	(0)
Minnesota	150	1	(0.7)	9	(6.0)	14	(9.3)	67	(44.7)	38	(25.3)	21	(14.0)	0	(0)
Mississippi	74	2	(2.7)	1	(1.4)	4	(5.4)	20	(27.0)	29	(39.2)	18	(24.3)	0	(0)
Missouri	92	3	(3.3)	5	(5.4)	14	(15.2)	32	(34.8)	21	(22.8)	17	(18.5)	0	(0)
Montana	9	0	(0)	0	(0)	1	(11.1)	2	(22.2)	2	(22.2)	4	(44.4)	0	(0)
Nebraska	33	1	(3.0)	1	(3.0)	4	(12.1)	16	(48.5)	6	(18.2)	5	(15.2)	0	(0)
Nevada	85	0	(0)	1	(1.2)	6	(7.1)	28	(32.9)	25	(29.4)	25	(29.4)	0	(0)
New Hampshire	13	0	(0)	1	(7.7)	2	(15.4)	4	(30.8)	2	(15.4)	4	(30.8)	0	(0)
New Jersey	326	8	(2.5)	2	(0.6)	32	(9.8)	109	(33.4)	87	(26.7)	88	(27.0)	0	(0)

Table 32. (Cont'd) Tuberculosis Cases and Percentages, by Age Group: Reporting Areas, 2015

Reporting Area	Total cases	Under 5		5–14		15–24		25–44		45–64		≥65		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
New Mexico	47	1	(2.1)	0	(0)	2	(4.3)	9	(19.1)	17	(36.2)	18	(38.3)	0	(0)
New York	765	18	(2.4)	14	(1.8)	83	(10.8)	249	(32.5)	230	(30.1)	171	(22.4)	0	(0)
North Carolina	199	7	(3.5)	3	(1.5)	19	(9.5)	67	(33.7)	57	(28.6)	46	(23.1)	0	(0)
North Dakota	9	0	(0)	0	(0)	2	(22.2)	2	(22.2)	3	(33.3)	2	(22.2)	0	(0)
Ohio	143	3	(2.1)	2	(1.4)	22	(15.4)	46	(32.2)	35	(24.5)	35	(24.5)	0	(0)
Oklahoma	67	2	(3.0)	3	(4.5)	3	(4.5)	12	(17.9)	23	(34.3)	24	(35.8)	0	(0)
Oregon	76	1	(1.3)	3	(3.9)	12	(15.8)	22	(28.9)	21	(27.6)	17	(22.4)	0	(0)
Pennsylvania	200	1	(0.5)	3	(1.5)	12	(6.0)	58	(29.0)	80	(40.0)	46	(23.0)	0	(0)
Rhode Island	30	0	(0)	0	(0)	2	(6.7)	8	(26.7)	8	(26.7)	12	(40.0)	0	(0)
South Carolina	104	3	(2.9)	3	(2.9)	10	(9.6)	25	(24.0)	39	(37.5)	24	(23.1)	0	(0)
South Dakota	17	0	(0)	1	(5.9)	3	(17.6)	5	(29.4)	6	(35.3)	2	(11.8)	0	(0)
Tennessee	131	6	(4.6)	0	(0)	13	(9.9)	39	(29.8)	33	(25.2)	40	(30.5)	0	(0)
Texas	1,334	47	(3.5)	37	(2.8)	135	(10.1)	443	(33.2)	446	(33.4)	226	(16.9)	0	(0)
Utah	37	4	(10.8)	3	(8.1)	5	(13.5)	11	(29.7)	11	(29.7)	3	(8.1)	0	(0)
Vermont	7	0	(0)	0	(0)	0	(0)	5	(71.4)	1	(14.3)	1	(14.3)	0	(0)
Virginia	212	5	(2.4)	5	(2.4)	14	(6.6)	68	(32.1)	56	(26.4)	64	(30.2)	0	(0)
Washington	208	5	(2.4)	6	(2.9)	28	(13.5)	64	(30.8)	48	(23.1)	56	(26.9)	1	(0.5)
West Virginia	10	0	(0)	1	(10.0)	1	(10.0)	0	(0)	4	(40.0)	4	(40.0)	0	(0)
Wisconsin	69	0	(0)	1	(1.4)	1	(1.4)	22	(31.9)	23	(33.3)	22	(31.9)	0	(0)
Wyoming	4	0	(0)	0	(0)	0	(0)	1	(25.0)	1	(25.0)	2	(50.0)	0	(0)
American Samoa[1]	4	0	(0)	0	(0)	0	(0)	0	(0)	1	(25.0)	3	(75.0)	0	(0)
Fed. States of Micronesia[1]	103	7	(6.8)	14	(13.6)	21	(20.4)	28	(27.2)	26	(25.2)	7	(6.8)	0	(0)
Guam[1]	76	9	(11.8)	7	(9.2)	9	(11.8)	15	(19.7)	22	(28.9)	14	(18.4)	0	(0)
Marshall Islands[1]	137	7	(5.1)	22	(16.1)	21	(15.3)	44	(32.1)	33	(24.1)	10	(7.3)	0	(0)
N. Mariana Islands[1]	27	2	(7.4)	1	(3.7)	2	(7.4)	7	(25.9)	12	(44.4)	3	(11.1)	0	(0)
Puerto Rico[1]	52	0	(0)	0	(0)	3	(5.8)	14	(26.9)	19	(36.5)	16	(30.8)	0	(0)
Republic of Palau[1]	14	0	(0)	1	(7.1)	2	(14.3)	2	(14.3)	5	(35.7)	4	(28.6)	0	(0)
U.S. Virgin Islands[1]	0	0	…	0	…	0	…	0	…	0	…	0	…	0	…

[1]Not included in U.S. totals.

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

Table 33. Tuberculosis Cases and Percentages by Hispanic Ethnicity and Non-Hispanic Race: Reporting Areas, 2015

Reporting 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	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**9,557**	**2,694**	**(28.2)**	**145**	**(1.5)**	**3,177**	**(33.2)**	**1,995**	**(20.9)**	**102**	**(1.1)**	**1,251**	**(13.1)**	**167**	**(1.7)**	**26**	**(0.3)**
Alabama	119	21	(17.6)	0	(0)	6	(5.0)	63	(52.9)	0	(0)	26	(21.8)	3	(2.5)	0	(0)
Alaska	68	0	(0)	56	(82.4)	9	(13.2)	0	(0)	0	(0)	3	(4.4)	0	(0)	0	(0)
Arizona	198	97	(49.0)	14	(7.1)	42	(21.2)	19	(9.6)	1	(0.5)	25	(12.6)	0	(0)	0	(0)
Arkansas	90	10	(11.1)	0	(0)	8	(8.9)	29	(32.2)	17	(18.9)	26	(28.9)	0	(0)	0	(0)
California	2,133	760	(35.6)	1	(0)	1,013	(47.5)	98	(4.6)	10	(0.5)	133	(6.2)	116	(5.4)	2	(0.1)
Colorado	73	22	(30.1)	0	(0)	24	(32.9)	14	(19.2)	0	(0)	11	(15.1)	1	(1.4)	1	(1.4)
Connecticut	70	20	(28.6)	0	(0)	25	(35.7)	17	(24.3)	0	(0)	8	(11.4)	0	(0)	0	(0)
Delaware	22	5	(22.7)	0	(0)	7	(31.8)	4	(18.2)	0	(0)	4	(18.2)	2	(9.1)	0	(0)
District of Columbia	33	5	(15.2)	0	(0)	3	(9.1)	21	(63.6)	0	(0)	4	(12.1)	0	(0)	0	(0)
Florida	602	169	(28.1)	0	(0)	85	(14.1)	221	(36.7)	1	(0.2)	125	(20.8)	1	(0.2)	0	(0)
Georgia	324	40	(12.3)	1	(0.3)	81	(25.0)	157	(48.5)	0	(0)	44	(13.6)	1	(0.3)	0	(0)
Hawaii	127	0	(0)	0	(0)	87	(68.5)	1	(0.8)	33	(26.0)	3	(2.4)	2	(1.6)	1	(0.8)
Idaho	11	2	(18.2)	0	(0)	3	(27.3)	1	(9.1)	0	(0)	3	(27.3)	0	(0)	2	(18.2)
Illinois	343	91	(26.5)	0	(0)	139	(40.5)	57	(16.6)	1	(0.3)	55	(16.0)	0	(0)	0	(0)
Indiana	116	23	(19.8)	0	(0)	38	(32.8)	24	(20.7)	0	(0)	31	(26.7)	0	(0)	0	(0)
Iowa	38	6	(15.8)	1	(2.6)	12	(31.6)	9	(23.7)	1	(2.6)	9	(23.7)	0	(0)	0	(0)
Kansas	36	6	(16.7)	0	(0)	13	(36.1)	8	(22.2)	1	(2.8)	8	(22.2)	0	(0)	0	(0)
Kentucky	67	12	(17.9)	0	(0)	13	(19.4)	13	(19.4)	1	(1.5)	28	(41.8)	0	(0)	0	(0)
Louisiana	119	20	(16.8)	0	(0)	17	(14.3)	39	(32.8)	0	(0)	36	(30.3)	6	(5.0)	1	(0.8)
Maine	18	0	(0)	0	(0)	2	(11.1)	12	(66.7)	0	(0)	4	(22.2)	0	(0)	0	(0)
Maryland	176	39	(22.2)	0	(0)	50	(28.4)	71	(40.3)	1	(0.6)	13	(7.4)	2	(1.1)	0	(0)
Massachusetts	192	35	(18.2)	0	(0)	80	(41.7)	45	(23.4)	0	(0)	20	(10.4)	8	(4.2)	4	(2.1)
Michigan	131	10	(7.6)	1	(0.8)	50	(38.2)	36	(27.5)	0	(0)	34	(26.0)	0	(0)	0	(0)
Minnesota	150	9	(6.0)	4	(2.7)	40	(26.7)	84	(56.0)	1	(0.7)	12	(8.0)	0	(0)	0	(0)
Mississippi	74	4	(5.4)	0	(0)	5	(6.8)	51	(68.9)	0	(0)	14	(18.9)	0	(0)	0	(0)
Missouri	92	11	(12.0)	0	(0)	34	(37.0)	15	(16.3)	10	(10.9)	22	(23.9)	0	(0)	0	(0)
Montana	9	0	(0)	3	(33.3)	1	(11.1)	1	(11.1)	0	(0)	4	(44.4)	0	(0)	0	(0)
Nebraska	33	10	(30.3)	0	(0)	9	(27.3)	5	(15.2)	0	(0)	5	(15.2)	4	(12.1)	0	(0)
Nevada	85	19	(22.4)	0	(0)	36	(42.4)	16	(18.8)	1	(1.2)	12	(14.1)	1	(1.2)	0	(0)
New Hampshire	13	2	(15.4)	0	(0)	4	(30.8)	4	(30.8)	0	(0)	3	(23.1)	0	(0)	0	(0)
New Jersey	326	104	(31.9)	0	(0)	146	(44.8)	49	(15.0)	0	(0)	27	(8.3)	0	(0)	0	(0)

Table 33. (Cont'd) Tuberculosis Cases and Percentages by Hispanic Ethnicity and Non-Hispanic Race: Reporting Areas, 2015

Reporting 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	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
New Mexico	47	27	(57.4)	7	(14.9)	3	(6.4)	1	(2.1)	0	(0)	9	(19.1)	0	(0)	0	(0)
New York	765	194	(25.4)	0	(0)	332	(43.4)	157	(20.5)	1	(0.1)	64	(8.4)	7	(0.9)	10	(1.3)
North Carolina	199	41	(20.6)	23	(11.6)	40	(20.1)	61	(30.7)	0	(0)	31	(15.6)	3	(1.5)	0	(0)
North Dakota	9	0	(0)	0	(0)	3	(33.3)	2	(22.2)	0	(0)	2	(22.2)	0	(0)	2	(22.2)
Ohio	143	7	(4.9)	0	(0)	49	(34.3)	49	(34.3)	1	(0.7)	37	(25.9)	0	(0)	0	(0)
Oklahoma	67	11	(16.4)	10	(14.9)	14	(20.9)	7	(10.4)	1	(1.5)	18	(26.9)	6	(9.0)	0	(0)
Oregon	76	10	(13.2)	1	(1.3)	35	(46.1)	7	(9.2)	2	(2.6)	21	(27.6)	0	(0)	0	(0)
Pennsylvania	200	26	(13.0)	0	(0)	78	(39.0)	60	(30.0)	1	(0.5)	34	(17.0)	1	(0.5)	0	(0)
Rhode Island	30	12	(40.0)	0	(0)	9	(30.0)	3	(10.0)	0	(0)	6	(20.0)	0	(0)	0	(0)
South Carolina	104	12	(11.5)	0	(0)	12	(11.5)	60	(57.7)	1	(1.0)	19	(18.3)	0	(0)	0	(0)
South Dakota	17	1	(5.9)	11	(64.7)	1	(5.9)	2	(11.8)	0	(0)	2	(11.8)	0	(0)	0	(0)
Tennessee	131	18	(13.7)	1	(0.8)	20	(15.3)	50	(38.2)	0	(0)	41	(31.3)	1	(0.8)	0	(0)
Texas	1,334	675	(50.6)	2	(0.1)	258	(19.3)	250	(18.7)	6	(0.4)	140	(10.5)	2	(0.1)	1	(0.1)
Utah	37	18	(48.6)	0	(0)	10	(27.0)	4	(10.8)	1	(2.7)	4	(10.8)	0	(0)	0	(0)
Vermont	7	1	(14.3)	0	(0)	2	(28.6)	1	(14.3)	0	(0)	3	(42.9)	0	(0)	0	(0)
Virginia	212	41	(19.3)	0	(0)	94	(44.3)	53	(25.0)	0	(0)	24	(11.3)	0	(0)	0	(0)
Washington	208	31	(14.9)	7	(3.4)	102	(49.0)	35	(16.8)	9	(4.3)	22	(10.6)	0	(0)	2	(1.0)
West Virginia	10	1	(10.0)	0	(0)	1	(10.0)	0	(0)	0	(0)	8	(80.0)	0	(0)	0	(0)
Wisconsin	69	15	(21.7)	1	(1.4)	30	(43.5)	9	(13.0)	0	(0)	14	(20.3)	0	(0)	0	(0)
Wyoming	4	1	(25.0)	1	(25.0)	2	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
American Samoa[3]	4	0	(0)	0	(0)	2	(50.0)	0	(0)	2	(50.0)	0	(0)	0	(0)	0	(0)
Fed. States of Micronesia[3]	103	0	(0)	0	(0)	0	(0)	0	(0)	102	(99.0)	0	(0)	1	(1.0)	0	(0)
Guam[3]	76	0	(0)	0	(0)	36	(47.4)	1	(1.3)	38	(50.0)	1	(1.3)	0	(0)	0	(0)
Marshall Islands[3]	137	1	(0.7)	0	(0)	0	(0)	0	(0)	133	(97.1)	0	(0)	3	(2.2)	0	(0)
N. Mariana Islands[3]	27	2	(7.4)	0	(0)	14	(51.9)	0	(0)	10	(37.0)	0	(0)	0	(0)	1	(3.7)
Puerto Rico[3]	52	51	(98.1)	0	(0)	1	(1.9)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Republic of Palau[3]	14	0	(0)	0	(0)	3	(21.4)	0	(0)	11	(78.6)	0	(0)	0	(0)	0	(0)
U.S. Virgin Islands[3]	0	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...

[1]Persons of Hispanic/Latino origin may be of any or multiple race.
[2]Indicates two or more races reported for a person and does not include persons of Hispanic/Latino origin.
[3]Not 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 34. Tuberculosis Cases and Percentages, U.S.-Born and Foreign-Born Persons[1]: Reporting Areas, 2015

Reporting area	Total cases	U.S.-born persons		Foreign-born persons[1]		Unknown origin	
		No.	(%)	No.	(%)	No.	(%)
United States	**9,557**	**3,186**	**(33.3)**	**6,350**	**(66.4)**	**21**	**(0.2)**
Alabama	119	90	(75.6)	29	(24.4)	0	(0)
Alaska	68	55	(80.9)	8	(11.8)	5	(7.4)
Arizona	198	57	(28.8)	141	(71.2)	0	(0)
Arkansas	90	72	(80.0)	18	(20.0)	0	(0)
California	2,133	406	(19.0)	1,718	(80.5)	9	(0.4)
Colorado	73	15	(20.5)	58	(79.5)	0	(0)
Connecticut	70	13	(18.6)	57	(81.4)	0	(0)
Delaware	22	8	(36.4)	13	(59.1)	1	(4.5)
District of Columbia	33	15	(45.5)	18	(54.5)	0	(0)
Florida	602	260	(43.2)	342	(56.8)	0	(0)
Georgia	324	176	(54.3)	148	(45.7)	0	(0)
Hawaii	127	45	(35.4)	82	(64.6)	0	(0)
Idaho	11	1	(9.1)	9	(81.8)	1	(9.1)
Illinois	343	100	(29.2)	243	(70.8)	0	(0)
Indiana	116	49	(42.2)	67	(57.8)	0	(0)
Iowa	38	7	(18.4)	31	(81.6)	0	(0)
Kansas	36	10	(27.8)	26	(72.2)	0	(0)
Kentucky	67	34	(50.7)	33	(49.3)	0	(0)
Louisiana	119	80	(67.2)	39	(32.8)	0	(0)
Maine	18	4	(22.2)	14	(77.8)	0	(0)
Maryland	176	42	(23.9)	134	(76.1)	0	(0)
Massachusetts	192	25	(13.0)	163	(84.9)	4	(2.1)
Michigan	131	47	(35.9)	84	(64.1)	0	(0)
Minnesota	150	22	(14.7)	128	(85.3)	0	(0)
Mississippi	74	64	(86.5)	10	(13.5)	0	(0)
Missouri	92	37	(40.2)	55	(59.8)	0	(0)
Montana	9	7	(77.8)	2	(22.2)	0	(0)
Nebraska	33	8	(24.2)	25	(75.8)	0	(0)
Nevada	85	26	(30.6)	59	(69.4)	0	(0)
New Hampshire	13	2	(15.4)	11	(84.6)	0	(0)
New Jersey	326	61	(18.7)	265	(81.3)	0	(0)
New Mexico	47	23	(48.9)	24	(51.1)	0	(0)
New York	765	148	(19.3)	616	(80.5)	1	(0.1)
North Carolina	199	107	(53.8)	92	(46.2)	0	(0)
North Dakota	9	1	(11.1)	8	(88.9)	0	(0)
Ohio	143	54	(37.8)	89	(62.2)	0	(0)
Oklahoma	67	42	(62.7)	25	(37.3)	0	(0)
Oregon	76	24	(31.6)	52	(68.4)	0	(0)
Pennsylvania	200	79	(39.5)	121	(60.5)	0	(0)
Rhode Island	30	4	(13.3)	26	(86.7)	0	(0)
South Carolina	104	79	(76.0)	25	(24.0)	0	(0)
South Dakota	17	12	(70.6)	5	(29.4)	0	(0)
Tennessee	131	72	(55.0)	59	(45.0)	0	(0)
Texas	1,334	570	(42.7)	764	(57.3)	0	(0)
Utah	37	9	(24.3)	28	(75.7)	0	(0)
Vermont	7	3	(42.9)	4	(57.1)	0	(0)
Virginia	212	44	(20.8)	168	(79.2)	0	(0)
Washington	208	48	(23.1)	160	(76.9)	0	(0)
West Virginia	10	7	(70.0)	3	(30.0)	0	(0)
Wisconsin	69	20	(29.0)	49	(71.0)	0	(0)
Wyoming	4	2	(50.0)	2	(50.0)	0	(0)

[1]Includes persons born outside of the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).
Note: See Surveillance Slide #16.

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Table 35. Tuberculosis Cases and Percentages Among Foreign-Born Persons[1], by Top Seven Countries of Birth: Reporting Areas, 2015

Reporting area	Total cases	Country of Origin																	
		Mexico		Philippines		Vietnam		India		China		Haiti		Guatemala		All others[2]		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**6,350**	**1,254**	**(19.7)**	**820**	**(12.9)**	**579**	**(9.1)**	**519**	**(8.2)**	**426**	**(6.7)**	**189**	**(3.0)**	**166**	**(2.6)**	**2,387**	**(37.6)**	**10**	**(0.2)**
Alabama	29	8	(27.6)	2	(6.9)	1	(3.4)	1	(3.4)	0	(0)	11	(37.9)	1	(3.4)	5	(17.2)	0	(0)
Alaska	8	0	(0)	5	(62.5)	1	(12.5)	0	(0)	0	(0)	0	(0)	0	(0)	2	(25.0)	0	(0)
Arizona	141	70	(49.6)	14	(9.9)	9	(6.4)	3	(2.1)	6	(4.3)	4	(2.8)	0	(0)	35	(24.8)	0	(0)
Arkansas	18	3	(16.7)	1	(5.6)	0	(0)	3	(16.7)	1	(5.6)	4	(22.2)	0	(0)	6	(33.3)	0	(0)
California	1,718	447	(26.0)	409	(23.8)	113	(6.6)	218	(12.7)	130	(7.6)	36	(2.1)	0	(0)	365	(21.2)	0	(0)
Colorado	58	14	(24.1)	5	(8.6)	4	(6.9)	3	(5.2)	3	(5.2)	0	(0)	0	(0)	29	(50.0)	0	(0)
Connecticut	57	4	(7.0)	7	(12.3)	10	(17.5)	2	(3.5)	0	(0)	2	(3.5)	2	(3.5)	30	(52.6)	0	(0)
Delaware	13	2	(15.4)	0	(0)	3	(23.1)	1	(7.7)	0	(0)	0	(0)	0	(0)	7	(53.8)	0	(0)
District of Columbia	18	0	(0)	1	(5.6)	1	(5.6)	1	(5.6)	0	(0)	1	(5.6)	0	(0)	14	(77.8)	0	(0)
Florida	342	31	(9.1)	31	(9.1)	13	(3.8)	13	(3.8)	7	(2.0)	24	(7.0)	94	(27.5)	128	(37.4)	1	(0.3)
Georgia	148	21	(14.2)	8	(5.4)	21	(14.2)	16	(10.8)	4	(2.7)	4	(2.7)	2	(1.4)	70	(47.3)	2	(1.4)
Hawaii	82	0	(0)	66	(80.5)	0	(0)	6	(7.3)	2	(2.4)	0	(0)	0	(0)	8	(9.8)	0	(0)
Idaho	9	0	(0)	0	(0)	0	(0)	1	(11.1)	0	(0)	0	(0)	0	(0)	8	(88.9)	0	(0)
Illinois	243	70	(28.8)	29	(11.9)	46	(18.9)	8	(3.3)	23	(9.5)	5	(2.1)	0	(0)	62	(25.5)	0	(0)
Indiana	67	14	(20.9)	1	(1.5)	9	(13.4)	4	(6.0)	4	(6.0)	0	(0)	2	(3.0)	33	(49.3)	0	(0)
Iowa	31	2	(6.5)	0	(0)	5	(16.1)	3	(9.7)	2	(6.5)	2	(6.5)	0	(0)	17	(54.8)	0	(0)
Kansas	26	3	(11.5)	0	(0)	3	(11.5)	2	(7.7)	0	(0)	1	(3.8)	0	(0)	17	(65.4)	0	(0)
Kentucky	33	4	(12.1)	2	(6.1)	4	(12.1)	2	(6.1)	0	(0)	1	(3.0)	0	(0)	20	(60.6)	0	(0)
Louisiana	39	4	(10.3)	3	(7.7)	2	(5.1)	12	(30.8)	1	(2.6)	3	(7.7)	0	(0)	14	(35.9)	0	(0)
Maine	14	0	(0)	0	(0)	1	(7.1)	0	(0)	1	(7.1)	0	(0)	0	(0)	12	(85.7)	0	(0)
Maryland	134	6	(4.5)	5	(3.7)	11	(8.2)	8	(6.0)	6	(4.5)	5	(3.7)	4	(3.0)	88	(65.7)	1	(0.7)
Massachusetts	163	2	(1.2)	7	(4.3)	14	(8.6)	15	(9.2)	15	(9.2)	3	(1.8)	12	(7.4)	95	(58.3)	0	(0)
Michigan	84	3	(3.6)	5	(6.0)	13	(15.5)	6	(7.1)	5	(6.0)	3	(3.6)	0	(0)	49	(58.3)	0	(0)
Minnesota	128	8	(6.3)	4	(3.1)	5	(3.9)	8	(6.3)	6	(4.7)	0	(0)	0	(0)	97	(75.8)	0	(0)
Mississippi	10	0	(0)	0	(0)	4	(40.0)	2	(20.0)	0	(0)	2	(20.0)	0	(0)	2	(20.0)	0	(0)
Missouri	55	4	(7.3)	4	(7.3)	14	(25.5)	7	(12.7)	1	(1.8)	3	(5.5)	1	(1.8)	21	(38.2)	0	(0)
Montana	2	0	(0)	1	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(50.0)	0	(0)

Table 35. (Cont'd) Tuberculosis Cases and Percentages Among Foreign-Born Persons[1], by Top Seven Countries of Birth: Reporting Areas, 2015

Reporting area	Total cases	Country of origin																	
		Mexico		Philippines		Vietnam		India		China		Haiti		Guatemala		All others[2]		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Nebraska	25	3	(12.0)	0	(0)	0	(0)	3	(12.0)	1	(4.0)	2	(8.0)	0	(0)	16	(64.0)	0	(0)
Nevada	59	13	(22.0)	20	(33.9)	5	(8.5)	3	(5.1)	5	(8.5)	0	(0)	0	(0)	12	(20.3)	1	(1.7)
New Hampshire	11	0	(0)	0	(0)	1	(9.1)	0	(0)	0	(0)	0	(0)	0	(0)	10	(90.9)	0	(0)
New Jersey	265	15	(5.7)	29	(10.9)	75	(28.3)	12	(4.5)	9	(3.4)	9	(3.4)	15	(5.7)	101	(38.1)	0	(0)
New Mexico	24	20	(83.3)	1	(4.2)	0	(0)	1	(4.2)	0	(0)	0	(0)	0	(0)	2	(8.3)	0	(0)
New York	616	45	(7.3)	37	(6.0)	36	(5.8)	1	(0.2)	134	(21.8)	7	(1.1)	27	(4.4)	329	(53.4)	0	(0)
North Carolina	92	24	(26.1)	6	(6.5)	14	(15.2)	8	(8.7)	2	(2.2)	6	(6.5)	1	(1.1)	28	(30.4)	3	(3.3)
North Dakota	8	0	(0)	0	(0)	1	(12.5)	1	(12.5)	1	(12.5)	0	(0)	0	(0)	5	(62.5)	0	(0)
Ohio	89	3	(3.4)	7	(7.9)	15	(16.9)	4	(4.5)	7	(7.9)	2	(2.2)	1	(1.1)	50	(56.2)	0	(0)
Oklahoma	25	8	(32.0)	1	(4.0)	3	(12.0)	5	(20.0)	0	(0)	0	(0)	0	(0)	8	(32.0)	0	(0)
Oregon	52	5	(9.6)	7	(13.5)	3	(5.8)	9	(17.3)	7	(13.5)	1	(1.9)	0	(0)	19	(36.5)	1	(1.9)
Pennsylvania	121	2	(1.7)	9	(7.4)	22	(18.2)	10	(8.3)	9	(7.4)	0	(0)	3	(2.5)	66	(54.5)	0	(0)
Rhode Island	26	1	(3.8)	0	(0)	0	(0)	1	(3.8)	3	(11.5)	3	(11.5)	0	(0)	18	(69.2)	0	(0)
South Carolina	25	8	(32.0)	2	(8.0)	6	(24.0)	2	(8.0)	1	(4.0)	2	(8.0)	0	(0)	4	(16.0)	0	(0)
South Dakota	5	0	(0)	1	(20.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	4	(80.0)	0	(0)
Tennessee	59	12	(20.3)	4	(6.8)	5	(8.5)	6	(10.2)	0	(0)	3	(5.1)	0	(0)	29	(49.2)	0	(0)
Texas	764	324	(42.4)	25	(3.3)	40	(5.2)	71	(9.3)	18	(2.4)	30	(3.9)	1	(0.1)	255	(33.4)	0	(0)
Utah	28	10	(35.7)	0	(0)	5	(17.9)	0	(0)	0	(0)	0	(0)	0	(0)	13	(46.4)	0	(0)
Vermont	4	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	4	(100.0)	0	(0)
Virginia	168	5	(3.0)	23	(13.7)	17	(10.1)	17	(10.1)	1	(0.6)	7	(4.2)	0	(0)	98	(58.3)	0	(0)
Washington	160	25	(15.6)	33	(20.6)	16	(10.0)	18	(11.3)	9	(5.6)	2	(1.3)	0	(0)	56	(35.0)	1	(0.6)
West Virginia	3	1	(33.3)	0	(0)	1	(33.3)	0	(0)	0	(0)	0	(0)	0	(0)	1	(33.3)	0	(0)
Wisconsin	49	10	(20.4)	4	(8.2)	6	(12.2)	2	(4.1)	2	(4.1)	1	(2.0)	0	(0)	24	(49.0)	0	(0)
Wyoming	2	0	(0)	1	(50.0)	1	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)

[1]Includes persons born outside of the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).

[2]Includes 136 countries.

Note: See Surveillance Slide #19.

Table 36. Tuberculosis Cases and Percentages Among Foreign-Born Persons[1], by Immigration Status at First Entry: Reporting Areas, 2015

Reporting area	Total cases	Asylee/parolee		Employment visa		Family/fiance visa		Immigrant visa		Refugee		Student visa		Tourist visa		Other immigration status[2]		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**6,350**	**24**	**(0.4)**	**122**	**(1.9)**	**171**	**(2.7)**	**1,670**	**(26.3)**	**409**	**(6.4)**	**191**	**(3.0)**	**113**	**(1.8)**	**1,408**	**(22.2)**	**2,242**	**(35.3)**
Alabama	29	1	(3.4)	2	(6.9)	3	(10.3)	2	(6.9)	0	(0)	1	(3.4)	0	(0)	19	(65.5)	1	(3.4)
Alaska	8	0	(0)	0	(0)	0	(0)	1	(12.5)	0	(0)	0	(0)	0	(0)	0	(0)	7	(87.5)
Arizona	141	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	141	(100.0)
Arkansas	18	0	(0)	0	(0)	2	(11.1)	8	(44.4)	0	(0)	2	(11.1)	0	(0)	1	(5.6)	5	(27.8)
California	1,718	5	(0.3)	39	(2.3)	63	(3.7)	751	(43.7)	63	(3.7)	53	(3.1)	42	(2.4)	324	(18.9)	378	(22.0)
Colorado	58	0	(0)	2	(3.4)	9	(15.5)	23	(39.7)	7	(12.1)	1	(1.7)	1	(1.7)	6	(10.3)	9	(15.5)
Connecticut	57	0	(0)	4	(7.0)	7	(12.3)	16	(28.1)	5	(8.8)	6	(10.5)	4	(7.0)	11	(19.3)	4	(7.0)
Delaware	13	0	(0)	1	(7.7)	3	(23.1)	1	(7.7)	0	(0)	1	(7.7)	0	(0)	2	(15.4)	5	(38.5)
District of Columbia	18	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	18	(100.0)
Florida	342	6	(1.8)	15	(4.4)	6	(1.8)	112	(32.7)	3	(0.9)	3	(0.9)	2	(0.6)	67	(19.6)	128	(37.4)
Georgia	148	1	(0.7)	6	(4.1)	13	(8.8)	50	(33.8)	18	(12.2)	5	(3.4)	3	(2.0)	28	(18.9)	24	(16.2)
Hawaii	82	0	(0)	0	(0)	0	(0)	46	(56.1)	0	(0)	2	(2.4)	0	(0)	0	(0)	34	(41.5)
Idaho	9	0	(0)	0	(0)	0	(0)	2	(22.2)	7	(77.8)	0	(0)	0	(0)	0	(0)	0	(0.0)
Illinois	243	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	243	(100.0)
Indiana	67	0	(0)	0	(0)	0	(0)	22	(32.8)	20	(29.9)	2	(3.0)	0	(0)	3	(4.5)	20	(29.9)
Iowa	31	0	(0)	2	(6.5)	2	(6.5)	11	(35.5)	8	(25.8)	5	(16.1)	0	(0)	3	(9.7)	0	(0.0)
Kansas	26	0	(0)	4	(15.4)	1	(3.8)	9	(34.6)	9	(34.6)	0	(0)	0	(0)	3	(11.5)	0	(0.0)
Kentucky	33	0	(0)	0	(0)	0	(0)	5	(15.2)	13	(39.4)	3	(9.1)	0	(0)	11	(33.3)	1	(3.0)
Louisiana	39	0	(0)	1	(2.6)	0	(0)	14	(35.9)	3	(7.7)	1	(2.6)	0	(0)	6	(15.4)	14	(35.9)
Maine	14	3	(21.4)	0	(0)	1	(7.1)	0	(0)	1	(7.1)	0	(0)	0	(0)	0	(0)	9	(64.3)
Maryland	134	1	(0.7)	1	(0.7)	6	(4.5)	52	(38.8)	9	(6.7)	13	(9.7)	3	(2.2)	38	(28.4)	11	(8.2)
Massachusetts	163	0	(0)	1	(0.6)	3	(1.8)	19	(11.7)	11	(6.7)	2	(1.2)	4	(2.5)	5	(3.1)	118	(72.4)
Michigan	84	0	(0)	4	(4.8)	3	(3.6)	49	(58.3)	3	(3.6)	10	(11.9)	3	(3.6)	4	(4.8)	8	(9.5)
Minnesota	128	2	(1.6)	4	(3.1)	11	(8.6)	31	(24.2)	52	(40.6)	6	(4.7)	10	(7.8)	5	(3.9)	7	(5.5)
Mississippi	10	0	(0)	1	(10.0)	1	(10.0)	0	(0)	0	(0)	1	(10.0)	0	(0)	2	(20.0)	5	(50.0)
Missouri	55	0	(0)	2	(3.6)	0	(0)	4	(7.3)	2	(3.6)	17	(30.9)	2	(3.6)	0	(0)	28	(50.9)
Montana	2	0	(0)	0	(0)	0	(0)	1	(50.0)	0	(0)	1	(50.0)	0	(0)	0	(0)	0	(0.0)
Nebraska	25	0	(0)	0	(0)	0	(0)	2	(8.0)	8	(32.0)	2	(8.0)	0	(0)	0	(0)	13	(52.0)

Table 36. (Con't) Tuberculosis Cases and Percentages Among Foreign-Born Persons[1], by Immigration Status at First Entry: Reporting Areas, 2015

Reporting area	Total cases	Asylee/parolee		Employment visa		Family/fiance visa		Immigrant visa		Refugee		Student visa		Tourist visa		Other immigration status[2]		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Nevada	59	0	(0)	0	(0)	0	(0)	50	(84.7)	2	(3.4)	0	(0)	1	(1.7)	2	(3.4)	4	(6.8)
New Hampshire	11	1	(9.1)	1	(9.1)	0	(0)	3	(27.3)	3	(27.3)	1	(9.1)	0	(0)	0	(0)	2	(18.2)
New Jersey	265	1	(0.4)	7	(2.6)	2	(0.8)	139	(52.5)	2	(0.8)	7	(2.6)	10	(3.8)	96	(36.2)	1	(0.4)
New Mexico	24	0	(0)	4	(16.7)	1	(4.2)	11	(45.8)	0	(0)	0	(0)	0	(0)	4	(16.7)	4	(16.7)
New York State[3]	145	0	(0)	1	(0.7)	0	(0)	30	(20.7)	21	(14.5)	8	(5.5)	9	(6.2)	76	(52.4)	0	(0.0)
New York City	471	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	471	(100.0)
North Carolina	92	0	(0)	3	(3.3)	4	(4.3)	8	(8.7)	7	(7.6)	2	(2.2)	0	(0)	64	(69.6)	4	(4.3)
North Dakota	8	0	(0)	0	(0)	0	(0)	2	(25.0)	3	(37.5)	1	(12.5)	1	(12.5)	0	(0)	1	(12.5)
Ohio	89	0	(0)	1	(1.1)	5	(5.6)	5	(5.6)	12	(13.5)	3	(3.4)	4	(4.5)	0	(0)	59	(66.3)
Oklahoma	25	0	(0)	0	(0)	0	(0)	4	(16.0)	4	(16.0)	4	(16.0)	0	(0)	3	(12.0)	10	(40.0)
Oregon	52	0	(0)	0	(0)	5	(9.6)	14	(26.9)	8	(15.4)	4	(7.7)	2	(3.8)	5	(9.6)	14	(26.9)
Pennsylvania	121	0	(0)	3	(2.5)	5	(4.1)	56	(46.3)	19	(15.7)	5	(4.1)	6	(5.0)	10	(8.3)	17	(14.0)
Rhode Island	26	0	(0)	0	(0)	0	(0)	5	(19.2)	1	(3.8)	0	(0)	0	(0)	5	(19.2)	15	(57.7)
South Carolina	25	0	(0)	2	(8.0)	0	(0)	2	(8.0)	1	(4.0)	0	(0)	0	(0)	5	(20.0)	15	(60.0)
South Dakota	5	0	(0)	0	(0)	0	(0)	2	(40.0)	1	(20.0)	0	(0)	0	(0)	1	(20.0)	1	(20.0)
Tennessee	59	0	(0)	0	(0)	0	(0)	0	(0)	3	(5.1)	1	(1.7)	0	(0)	0	(0)	55	(93.2)
Texas	764	3	(0.4)	8	(1.0)	12	(1.6)	91	(11.9)	57	(7.5)	16	(2.1)	5	(0.7)	568	(74.3)	4	(0.5)
Utah	28	0	(0)	1	(3.6)	0	(0)	9	(32.1)	6	(21.4)	1	(3.6)	0	(0)	10	(35.7)	1	(3.6)
Vermont	4	0	(0)	0	(0)	0	(0)	2	(50.0)	1	(25.0)	0	(0)	1	(25.0)	0	(0)	0	(0.0)
Virginia	168	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	168	(100.0)
Washington	160	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	160	(100.0)
West Virginia	3	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(33.3)	0	(0)	0	(0)	2	(66.7)
Wisconsin	49	0	(0)	1	(2.0)	3	(6.1)	6	(12.2)	16	(32.7)	0	(0)	0	(0)	21	(42.9)	2	(4.1)
Wyoming	2	0	(0)	1	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(50.0)

[1]Includes persons born outside of the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).
[2]Other immigration status includes (but is not limited to) foreign-born persons who were not required to obtain a visa or persons with no official immigration status (i.e., undocumented).
[3]Excludes New York City.

Table 37. Tuberculosis Cases and Percentages Among Foreign-Born Persons[1], by Number of Years in the United States: Reporting Areas, 2015

Reporting area	Total cases	<1 Year		1–4		5–9		10–19		≥20		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**6,350**	**1,062**	**(16.7)**	**1,003**	**(15.8)**	**776**	**(12.2)**	**1,240**	**(19.5)**	**1,682**	**(26.5)**	**587**	**(9.2)**
Alabama	29	2	(6.9)	3	(10.3)	9	(31.0)	12	(41.4)	3	(10.3)	0	(0)
Alaska	8	1	(12.5)	1	(12.5)	2	(25.0)	0	(0)	3	(37.5)	1	(12.5)
Arizona	141	43	(30.5)	18	(12.8)	9	(6.4)	21	(14.9)	46	(32.6)	4	(2.8)
Arkansas	18	6	(33.3)	4	(22.2)	4	(22.2)	3	(16.7)	1	(5.6)	0	(0)
California	1,718	154	(9.0)	162	(9.4)	161	(9.4)	320	(18.6)	613	(35.7)	308	(17.9)
Colorado	58	12	(20.7)	10	(17.2)	5	(8.6)	8	(13.8)	11	(19.0)	12	(20.7)
Connecticut	57	12	(21.1)	16	(28.1)	6	(10.5)	11	(19.3)	12	(21.1)	0	(0)
Delaware	13	3	(23.1)	3	(23.1)	1	(7.7)	6	(46.2)	0	(0)	0	(0)
District of Columbia	18	5	(27.8)	3	(16.7)	5	(27.8)	0	(0)	5	(27.8)	0	(0)
Florida	342	54	(15.8)	68	(19.9)	45	(13.2)	79	(23.1)	82	(24.0)	14	(4.1)
Georgia	148	38	(25.7)	23	(15.5)	21	(14.2)	29	(19.6)	29	(19.6)	8	(5.4)
Hawaii	82	20	(24.4)	6	(7.3)	9	(11.0)	15	(18.3)	25	(30.5)	7	(8.5)
Idaho	9	4	(44.4)	4	(44.4)	0	(0)	1	(11.1)	0	(0)	0	(0)
Illinois	243	43	(17.7)	41	(16.9)	32	(13.2)	64	(26.3)	57	(23.5)	6	(2.5)
Indiana	67	21	(31.3)	9	(13.4)	7	(10.4)	16	(23.9)	5	(7.5)	9	(13.4)
Iowa	31	0	(0)	0	(0)	2	(6.5)	0	(0)	0	(0)	29	(93.5)
Kansas	26	4	(15.4)	6	(23.1)	6	(23.1)	5	(19.2)	5	(19.2)	0	(0)
Kentucky	33	7	(21.2)	11	(33.3)	4	(12.1)	9	(27.3)	2	(6.1)	0	(0)
Louisiana	39	10	(25.6)	5	(12.8)	9	(23.1)	7	(17.9)	8	(20.5)	0	(0)
Maine	14	9	(64.3)	2	(14.3)	0	(0)	1	(7.1)	2	(14.3)	0	(0)
Maryland	134	25	(18.7)	36	(26.9)	21	(15.7)	18	(13.4)	33	(24.6)	1	(0.7)
Massachusetts	163	42	(25.8)	26	(16.0)	21	(12.9)	30	(18.4)	34	(20.9)	10	(6.1)
Michigan	84	16	(19.0)	16	(19.0)	15	(17.9)	16	(19.0)	16	(19.0)	5	(6.0)
Minnesota	128	28	(21.9)	24	(18.8)	21	(16.4)	34	(26.6)	20	(15.6)	1	(0.8)
Mississippi	10	0	(0)	3	(30.0)	2	(20.0)	3	(30.0)	2	(20.0)	0	(0)
Missouri	55	20	(36.4)	10	(18.2)	2	(3.6)	14	(25.5)	9	(16.4)	0	(0)
Montana	2	0	(0)	2	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)
Nebraska	25	6	(24.0)	5	(20.0)	4	(16.0)	5	(20.0)	4	(16.0)	1	(4.0)
Nevada	59	6	(10.2)	8	(13.6)	9	(15.3)	13	(22.0)	22	(37.3)	1	(1.7)
New Hampshire	11	3	(27.3)	3	(27.3)	1	(9.1)	3	(27.3)	1	(9.1)	0	(0)
New Jersey	265	41	(15.5)	44	(16.6)	29	(10.9)	54	(20.4)	49	(18.5)	48	(18.1)
New Mexico	24	4	(16.7)	1	(4.2)	1	(4.2)	3	(12.5)	15	(62.5)	0	(0)
New York	616	80	(13.0)	127	(20.6)	93	(15.1)	119	(19.3)	151	(24.5)	46	(7.5)
North Carolina	92	14	(15.2)	13	(14.1)	9	(9.8)	15	(16.3)	8	(8.7)	33	(35.9)
North Dakota	8	1	(12.5)	2	(25.0)	0	(0)	3	(37.5)	1	(12.5)	1	(12.5)
Ohio	89	25	(28.1)	30	(33.7)	16	(18.0)	9	(10.1)	9	(10.1)	0	(0)
Oklahoma	25	4	(16.0)	5	(20.0)	3	(12.0)	3	(12.0)	8	(32.0)	2	(8.0)
Oregon	52	12	(23.1)	5	(9.6)	5	(9.6)	5	(9.6)	3	(5.8)	22	(42.3)
Pennsylvania	121	16	(13.2)	27	(22.3)	18	(14.9)	31	(25.6)	29	(24.0)	0	(0)
Rhode Island	26	2	(7.7)	6	(23.1)	4	(15.4)	3	(11.5)	9	(34.6)	2	(7.7)
South Carolina	25	2	(8.0)	6	(24.0)	8	(32.0)	5	(20.0)	4	(16.0)	0	(0)
South Dakota	5	2	(40.0)	0	(0)	0	(0)	3	(60.0)	0	(0)	0	(0)
Tennessee	59	15	(25.4)	8	(13.6)	9	(15.3)	16	(27.1)	11	(18.6)	0	(0)
Texas	764	179	(23.4)	121	(15.8)	83	(10.9)	152	(19.9)	229	(30.0)	0	(0)
Utah	28	10	(35.7)	3	(10.7)	4	(14.3)	6	(21.4)	4	(14.3)	1	(3.6)
Vermont	4	1	(25.0)	1	(25.0)	1	(25.0)	1	(25.0)	0	(0)	0	(0)
Virginia	168	24	(14.3)	42	(25.0)	26	(15.5)	37	(22.0)	39	(23.2)	0	(0)
Washington	160	25	(15.6)	26	(16.3)	24	(15.0)	25	(15.6)	47	(29.4)	13	(8.1)
West Virginia	3	1	(33.3)	1	(33.3)	0	(0)	1	(33.3)	0	(0)	0	(0)
Wisconsin	49	9	(18.4)	7	(14.3)	10	(20.4)	5	(10.2)	16	(32.7)	2	(4.1)
Wyoming	2	1	(50.0)	0	(0)	0	(0)	1	(50.0)	0	(0)	0	(0)

[1]Includes persons born outside of the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).

Table 38. Tuberculosis Cases and Percentages, by Pulmonary and Extrapulmonary Disease: Reporting Areas, 2015

Reporting area	Total cases	Pulmonary[1]		Extrapulmonary[2]		Both pulmonary/ extrapulmonary	
		No.	(%)	No.	(%)	No.	(%)
United States	**9,557**	**6,668**	**(69.8)**	**1,933**	**(20.2)**	**950**	**(9.9)**
Alabama	119	97	(81.5)	20	(16.8)	2	(1.7)
Alaska	68	60	(88.2)	5	(7.4)	3	(4.4)
Arizona	198	154	(77.8)	31	(15.7)	13	(6.6)
Arkansas	90	65	(72.2)	16	(17.8)	9	(10.0)
California	2,133	1,500	(70.3)	418	(19.6)	215	(10.1)
Colorado	73	34	(46.6)	24	(32.9)	15	(20.5)
Connecticut	70	40	(57.1)	22	(31.4)	8	(11.4)
Delaware	22	10	(45.5)	12	(54.5)	0	(0)
District of Columbia	33	18	(54.5)	8	(24.2)	7	(21.2)
Florida	602	462	(76.7)	80	(13.3)	60	(10.0)
Georgia	324	240	(74.1)	59	(18.2)	25	(7.7)
Hawaii	127	93	(73.2)	13	(10.2)	21	(16.5)
Idaho	11	7	(63.6)	2	(18.2)	1	(9.1)
Illinois	343	235	(68.5)	81	(23.6)	27	(7.9)
Indiana	116	75	(64.7)	28	(24.1)	13	(11.2)
Iowa	38	26	(68.4)	9	(23.7)	3	(7.9)
Kansas	36	26	(72.2)	8	(22.2)	2	(5.6)
Kentucky	67	49	(73.1)	14	(20.9)	4	(6.0)
Louisiana	119	99	(83.2)	17	(14.3)	3	(2.5)
Maine	18	9	(50.0)	9	(50.0)	0	(0)
Maryland	176	104	(59.1)	51	(29.0)	21	(11.9)
Massachusetts	192	120	(62.5)	48	(25.0)	22	(11.5)
Michigan	131	74	(56.5)	44	(33.6)	13	(9.9)
Minnesota	150	79	(52.7)	53	(35.3)	18	(12.0)
Mississippi	74	61	(82.4)	8	(10.8)	5	(6.8)
Missouri	92	60	(65.2)	15	(16.3)	17	(18.5)
Montana	9	9	(100.0)	0	(0)	0	(0)
Nebraska	33	19	(57.6)	13	(39.4)	0	(0)
Nevada	85	61	(71.8)	19	(22.4)	5	(5.9)
New Hampshire	13	8	(61.5)	3	(23.1)	2	(15.4)
New Jersey	326	224	(68.7)	70	(21.5)	32	(9.8)
New Mexico	47	35	(74.5)	10	(21.3)	2	(4.3)
New York	765	499	(65.2)	152	(19.9)	114	(14.9)
North Carolina	199	141	(70.9)	31	(15.6)	27	(13.6)
North Dakota	9	7	(77.8)	2	(22.2)	0	(0)
Ohio	143	98	(68.5)	45	(31.5)	0	(0)
Oklahoma	67	50	(74.6)	16	(23.9)	1	(1.5)
Oregon	76	51	(67.1)	14	(18.4)	11	(14.5)
Pennsylvania	200	138	(69.0)	49	(24.5)	13	(6.5)
Rhode Island	30	16	(53.3)	11	(36.7)	3	(10.0)
South Carolina	104	68	(65.4)	22	(21.2)	14	(13.5)
South Dakota	17	12	(70.6)	2	(11.8)	3	(17.6)
Tennessee	131	88	(67.2)	27	(20.6)	16	(12.2)
Texas	1,334	1,014	(76.0)	211	(15.8)	109	(8.2)
Utah	37	23	(62.2)	10	(27.0)	4	(10.8)
Vermont	7	6	(85.7)	1	(14.3)	0	(0)
Virginia	212	139	(65.6)	45	(21.2)	28	(13.2)
Washington	208	114	(54.8)	59	(28.4)	33	(15.9)
West Virginia	10	7	(70.0)	3	(30.0)	0	(0)
Wisconsin	69	41	(59.4)	22	(31.9)	6	(8.7)
Wyoming	4	3	(75.0)	1	(25.0)	0	(0)
American Samoa[3]	4	4	(100.0)	0	(0)	0	(0)
Fed. States of Micronesia[3]	103	90	(87.4)	13	(12.6)	0	(0)
Guam[3]	76	73	(96.1)	2	(2.6)	1	(1.3)
Marshall Islands[3]	137	98	(71.5)	28	(20.4)	11	(8.0)
N. Mariana Islands[3]	27	25	(92.6)	1	(3.7)	0	(0)
Puerto Rico[3]	52	49	(94.2)	2	(3.8)	1	(1.9)
Republic of Palau[3]	14	10	(71.4)	3	(21.4)	1	(7.1)
U.S. Virgin Islands[3]	0	0	...	0	...	0	...

[1]Includes cases with pulmonary listed as the only site of disease.
[2]Includes cases with pleural, lymphatic, bone and/or joint, meningeal, peritoneal, genitourinary, or other site, excluding pulmonary, listed as site of disease.
[3]Not included in U.S. totals.
Note: Six cases had missing and/or unknown site of disease.
Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 39. Extrapulmonary Tuberculosis Cases and Percentages by Site of Disease: Reporting Areas, 2015

Reporting area	Total extrapulm. cases[1]	Total extrapulm. sites[2]	Site of disease															
			Pleural		Lymphatic		Bone or joint		Genitourinary		Meningeal		Peritoneal		Laryngeal		Other	
			No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**1,933**	**2,032**	**349**	**(17.2)**	**715**	**(35.2)**	**196**	**(9.6)**	**91**	**(4.5)**	**92**	**(4.5)**	**126**	**(6.2)**	**4**	**(0.2)**	**459**	**(22.6)**
Alabama	20	20	6	(30.0)	3	(15.0)	0	(0)	0	(0)	2	(10.0)	3	(15.0)	0	(0)	6	(30.0)
Alaska	5	5	0	(0)	0	(0)	1	(20.0)	0	(0)	2	(40.0)	0	(0)	0	(0)	2	(40.0)
Arizona	31	32	7	(21.9)	11	(34.4)	5	(15.6)	2	(6.3)	1	(3.1)	1	(3.1)	0	(0)	5	(15.6)
Arkansas	16	17	5	(29.4)	3	(17.6)	1	(5.9)	0	(0)	1	(5.9)	1	(5.9)	0	(0)	6	(35.3)
California	418	435	82	(18.9)	133	(30.6)	38	(8.7)	28	(6.4)	20	(4.6)	33	(7.6)	0	(0)	101	(23.2)
Colorado	24	27	2	(7.4)	9	(33.3)	3	(11.1)	1	(3.7)	1	(3.7)	1	(3.7)	0	(0)	10	(37.0)
Connecticut	22	24	3	(12.5)	13	(54.2)	4	(16.7)	2	(8.3)	1	(4.2)	1	(4.2)	0	(0)	0	(0)
Delaware	12	12	4	(33.3)	2	(16.7)	2	(16.7)	0	(0)	0	(0)	1	(8.3)	0	(0)	3	(25.0)
District of Columbia	8	8	1	(12.5)	2	(25.0)	0	(0)	0	(0)	2	(25.0)	0	(0)	0	(0)	3	(37.5)
Florida	80	84	14	(16.7)	28	(33.3)	12	(14.3)	2	(2.4)	6	(7.1)	2	(2.4)	0	(0)	20	(23.8)
Georgia	59	60	8	(13.3)	20	(33.3)	2	(3.3)	5	(8.3)	4	(6.7)	2	(3.3)	0	(0)	19	(31.7)
Hawaii	13	14	1	(7.1)	4	(28.6)	1	(7.1)	3	(21.4)	0	(0)	0	(0)	1	(7.1)	4	(28.6)
Idaho	2	2	0	(0)	0	(0)	1	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(50.0)
Illinois	81	86	11	(12.8)	34	(39.5)	10	(11.6)	3	(3.5)	1	(1.2)	10	(11.6)	0	(0)	17	(19.8)
Indiana	28	30	7	(23.3)	9	(30.0)	3	(10.0)	5	(16.7)	0	(0)	2	(6.7)	0	(0)	4	(13.3)
Iowa	9	11	2	(18.2)	5	(45.5)	0	(0)	1	(9.1)	0	(0)	0	(0)	0	(0)	3	(27.3)
Kansas	8	8	2	(25.0)	3	(37.5)	2	(25.0)	0	(0)	0	(0)	1	(12.5)	0	(0)	0	(0)
Kentucky	14	17	3	(17.6)	4	(23.5)	2	(11.8)	2	(11.8)	1	(5.9)	1	(5.9)	0	(0)	4	(23.5)
Louisiana	17	17	4	(23.5)	7	(41.2)	0	(0)	0	(0)	2	(11.8)	0	(0)	0	(0)	4	(23.5)
Maine	9	11	2	(18.2)	4	(36.4)	0	(0)	0	(0)	0	(0)	1	(9.1)	0	(0)	4	(36.4)
Maryland	51	54	14	(25.9)	17	(31.5)	4	(7.4)	1	(1.9)	3	(5.6)	1	(1.9)	0	(0)	14	(25.9)
Massachusetts	48	48	7	(14.6)	14	(29.2)	2	(4.2)	1	(2.1)	3	(6.3)	3	(6.3)	0	(0)	18	(37.5)
Michigan	44	44	9	(20.5)	12	(27.3)	3	(6.8)	0	(0)	0	(0)	2	(4.5)	1	(2.3)	17	(38.6)
Minnesota	53	55	2	(3.6)	33	(60.0)	11	(20.0)	3	(5.5)	0	(0)	3	(5.5)	0	(0)	3	(5.5)
Mississippi	8	8	1	(12.5)	2	(25.0)	2	(25.0)	0	(0)	1	(12.5)	0	(0)	0	(0)	2	(25.0)
Missouri	15	15	2	(13.3)	7	(46.7)	1	(6.7)	0	(0)	0	(0)	0	(0)	0	(0)	5	(33.3)
Nebraska	13	13	0	(0)	2	(15.4)	1	(7.7)	1	(7.7)	1	(7.7)	0	(0)	0	(0)	8	(61.5)
Nevada	19	19	3	(15.8)	8	(42.1)	1	(5.3)	0	(0)	3	(15.8)	2	(10.5)	0	(0)	2	(10.5)
New Hampshire	3	3	0	(0)	0	(0)	0	(0)	0	(0)	1	(33.3)	0	(0)	0	(0)	2	(66.7)
New Jersey	70	74	12	(16.2)	27	(36.5)	7	(9.5)	5	(6.8)	3	(4.1)	8	(10.8)	0	(0)	12	(16.2)
New Mexico	10	11	4	(36.4)	0	(0)	1	(9.1)	1	(9.1)	1	(9.1)	0	(0)	0	(0)	4	(36.4)

Table 39. (Con't) Extrapulmonary Tuberculosis Cases and Percentages by Site of Disease: Reporting Areas, 2015

Reporting area	Total extrapulm. cases[1]	Total extrapulm. sites[2]	Site of disease															
			Pleural		Lymphatic		Bone or Joint		Genitourinary		Meningeal		Peritoneal		Laryngeal		Other	
			No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
New York	152	173	35	(20.2)	69	(39.9)	16	(9.2)	10	(5.8)	9	(5.2)	8	(4.6)	0	(0)	26	(15.0)
North Carolina	31	36	11	(30.6)	7	(19.4)	5	(13.9)	2	(5.6)	2	(5.6)	2	(5.6)	0	(0)	7	(19.4)
North Dakota	2	2	0	(0)	2	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Ohio	45	45	6	(13.3)	15	(33.3)	4	(8.9)	2	(4.4)	4	(8.9)	4	(8.9)	0	(0)	10	(22.2)
Oklahoma	16	16	5	(31.3)	10	(62.5)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(6.3)
Oregon	14	14	1	(7.1)	4	(28.6)	1	(7.1)	0	(0)	0	(0)	2	(14.3)	0	(0)	6	(42.9)
Pennyslvania	49	49	7	(14.3)	19	(38.8)	2	(4.1)	2	(4.1)	0	(0)	7	(14.3)	0	(0)	12	(24.5)
Rhode Island	11	12	3	(25.0)	3	(25.0)	1	(8.3)	2	(16.7)	2	(16.7)	1	(8.3)	0	(0)	0	(0)
South Carolina	22	25	6	(24.0)	9	(36.0)	4	(16.0)	0	(0)	1	(4.0)	3	(12.0)	0	(0)	2	(8.0)
South Dakota	2	2	0	(0)	1	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(50.0)
Tennessee	27	27	2	(7.4)	15	(55.6)	3	(11.1)	0	(0)	1	(3.7)	1	(3.7)	0	(0)	5	(18.5)
Texas	211	222	36	(16.2)	77	(34.7)	31	(14.0)	3	(1.4)	11	(5.0)	8	(3.6)	1	(0.5)	55	(24.8)
Utah	10	10	0	(0)	3	(30.0)	2	(20.0)	0	(0)	0	(0)	0	(0)	0	(0)	5	(50.0)
Vermont	1	1	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Virginia	45	47	3	(6.4)	25	(53.2)	3	(6.4)	1	(2.1)	0	(0)	3	(6.4)	0	(0)	12	(25.5)
Washington	59	61	12	(19.7)	27	(44.3)	3	(4.9)	1	(1.6)	2	(3.3)	7	(11.5)	0	(0)	9	(14.8)
West Virginia	3	3	0	(0)	1	(33.3)	1	(33.3)	0	(0)	0	(0)	0	(0)	0	(0)	1	(33.3)
Wisconsin	22	22	4	(18.2)	11	(50.0)	0	(0)	2	(9.1)	0	(0)	1	(4.5)	1	(4.5)	3	(13.6)
Wyoming	1	1	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)
American Samoa[3]	0	0	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
Fed. States of Micronesia[3]	13	14	4	(28.6)	9	(64.3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(7.1)
Guam[3]	2	2	0	(0)	1	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(50.0)
Marshall Islands[3]	28	28	10	(35.7)	8	(28.6)	1	(3.6)	0	(0)	0	(0)	8	(28.6)	0	(0)	1	(3.6)
N. Mariana Islands[3]	1	1	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)
Puerto Rico[3]	2	3	2	(66.7)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(33.3)
Republic of Palau[3]	3	3	1	(33.3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(66.7)
U.S. Virgin Islands[3]	0	0	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...

[1]Excludes cases with pulmonary site of disease and cases with site not stated.
[2]Patient may have more than one extrapulmonary site of disease.
[3]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.
See Technical Notes.

Table 40. Tuberculosis Risk Factors[1]: Reporting Areas, 2015

Reporting area	Total	MDR patient contact		Missed contact		Infectious TB patient contact		Incomplete LTBI therapy		Diabetes mellitus		Renal disease		TNF-α inhibitors		Post-organ transplantation		Immuno-suppression		Other		None		Missing[2]	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**9,557**	**13**	**(0.1)**	**66**	**(0.7)**	**705**	**(7.4)**	**202**	**(2.1)**	**1,488**	**(15.6)**	**199**	**(2.1)**	**52**	**(0.5)**	**39**	**(0.4)**	**406**	**(4.2)**	**2,191**	**(22.9)**	**4,251**	**(44.5)**	**686**	**(7.2)**
Alabama	119	1	(0.8)	1	(0.8)	23	(19.3)	6	(5.0)	9	(7.6)	2	(1.7)	1	(0.8)	2	(1.7)	6	(5.0)	5	(4.2)	68	(57.1)	0	(0)
Alaska	68	0	(0)	0	(0)	28	(41.2)	2	(2.9)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	4	(5.9)	34	(50.0)	0	(0)
Arizona	198	1	(0.5)	2	(1.0)	16	(8.1)	4	(2.0)	26	(13.1)	2	(1.0)	2	(1.0)	2	(1.0)	3	(1.5)	35	(17.7)	120	(60.6)	0	(0)
Arkansas	90	0	(0)	5	(5.6)	30	(33.3)	7	(7.8)	12	(13.3)	1	(1.1)	0	(0)	0	(0)	4	(4.4)	6	(6.7)	38	(42.2)	1	(1.1)
California	2,133	2	(0.1)	5	(0.2)	87	(4.1)	16	(0.8)	491	(23.0)	71	(3.3)	12	(0.6)	7	(0.3)	92	(4.3)	633	(29.7)	883	(41.4)	39	(1.8)
Colorado	73	0	(0)	0	(0)	4	(5.5)	1	(1.4)	12	(16.4)	2	(2.7)	4	(5.5)	0	(0)	3	(4.1)	0	(0)	51	(69.9)	0	(0)
Connecticut	70	0	(0)	0	(0)	0	(0)	0	(0)	8	(11.4)	1	(1.4)	1	(1.4)	0	(0)	0	(0)	16	(22.9)	45	(64.3)	0	(0)
Delaware	22	0	(0)	0	(0)	2	(9.1)	0	(0)	2	(9.1)	1	(4.5)	0	(0)	0	(0)	2	(9.1)	12	(54.5)	5	(22.7)	0	(0)
District of Columbia	33	0	(0)	0	(0)	0	(0)	1	(3.0)	1	(3.0)	1	(3.0)	0	(0)	0	(0)	1	(3.0)	5	(15.2)	25	(75.8)	0	(0)
Florida	602	0	(0)	9	(1.5)	56	(9.3)	14	(2.3)	84	(14.0)	9	(1.5)	1	(0.2)	2	(0.3)	75	(12.5)	113	(18.8)	280	(46.5)	0	(0)
Georgia	324	2	(0.6)	6	(1.9)	37	(11.4)	13	(4.0)	53	(16.4)	7	(2.2)	1	(0.3)	1	(0.3)	16	(4.9)	76	(23.5)	160	(49.4)	2	(0.6)
Hawaii	127	0	(0)	0	(0)	12	(9.4)	5	(3.9)	41	(32.3)	0	(0)	0	(0)	0	(0)	3	(2.4)	12	(9.4)	62	(48.8)	0	(0)
Idaho	11	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(18.2)	3	(27.3)	6	(54.5)
Illinois	343	0	(0)	4	(1.2)	33	(9.6)	4	(1.2)	62	(18.1)	3	(0.9)	0	(0)	1	(0.3)	21	(6.1)	49	(14.3)	192	(56.0)	1	(0.3)
Indiana	116	0	(0)	1	(0.9)	17	(14.7)	4	(3.4)	9	(7.8)	3	(2.6)	0	(0)	1	(0.9)	8	(6.9)	21	(18.1)	59	(50.9)	0	(0)
Iowa	38	0	(0)	0	(0)	3	(7.9)	4	(10.5)	1	(2.6)	0	(0)	0	(0)	0	(0)	2	(5.3)	0	(0)	26	(68.4)	3	(7.9)
Kansas	36	0	(0)	0	(0)	1	(2.8)	0	(0)	7	(19.4)	0	(0)	1	(2.8)	0	(0)	0	(0)	3	(8.3)	23	(63.9)	1	(2.8)
Kentucky	67	0	(0)	0	(0)	4	(6.0)	2	(3.0)	1	(1.5)	1	(1.5)	0	(0)	0	(0)	7	(10.4)	23	(34.3)	32	(47.8)	0	(0)
Louisiana	119	1	(0.8)	3	(2.5)	10	(8.4)	3	(2.5)	15	(12.6)	2	(1.7)	0	(0)	0	(0)	6	(5.0)	11	(9.2)	67	(56.3)	3	(2.5)
Maine	18	0	(0)	0	(0)	5	(27.8)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(5.6)	1	(5.6)	12	(66.7)	0	(0)
Maryland	176	0	(0)	0	(0)	17	(9.7)	3	(1.7)	27	(15.3)	2	(1.1)	0	(0)	1	(0.6)	7	(4.0)	17	(9.7)	99	(56.3)	8	(4.5)
Massachusetts	192	2	(1.0)	2	(1.0)	8	(4.2)	8	(4.2)	13	(6.8)	8	(4.2)	3	(1.6)	1	(0.5)	0	(0)	57	(29.7)	95	(49.5)	17	(8.9)
Michigan	131	0	(0)	1	(0.8)	9	(6.9)	8	(6.1)	18	(13.7)	1	(0.8)	0	(0)	0	(0)	3	(2.3)	97	(74.0)	0	(0)	1	(0.8)
Minnesota	150	0	(0)	0	(0)	5	(3.3)	14	(9.3)	12	(8.0)	3	(2.0)	0	(0)	0	(0)	13	(8.7)	82	(54.7)	43	(28.7)	1	(0.7)
Mississippi	74	0	(0)	1	(1.4)	4	(5.4)	4	(5.4)	5	(6.8)	0	(0)	0	(0)	0	(0)	0	(0)	61	(82.4)	8	(10.8)	1	(1.4)
Missouri	92	0	(0)	1	(1.1)	18	(19.6)	0	(0)	13	(14.1)	3	(3.3)	1	(1.1)	0	(0)	11	(12.0)	12	(13.0)	49	(53.3)	0	(0)
Montana	9	0	(0)	0	(0)	1	(11.1)	0	(0)	1	(11.1)	0	(0)	0	(0)	0	(0)	1	(11.1)	8	(88.9)	0	(0)	0	(0)
Nebraska	33	0	(0)	1	(3.0)	3	(9.1)	1	(3.0)	2	(6.1)	0	(0)	0	(0)	0	(0)	1	(3.0)	12	(36.4)	3	(9.1)	12	(36.4)
Nevada	85	0	(0)	0	(0)	0	(0)	2	(2.4)	17	(20.0)	0	(0)	2	(2.4)	0	(0)	3	(3.5)	1	(1.2)	60	(70.6)	0	(0)
New Hampshire	13	0	(0)	0	(0)	0	(0)	1	(7.7)	1	(7.7)	0	(0)	1	(7.7)	0	(0)	0	(0)	2	(15.4)	8	(61.5)	0	(0)
New Jersey	326	1	(0.3)	0	(0)	20	(6.1)	1	(0.3)	68	(20.9)	11	(3.4)	1	(0.3)	3	(0.9)	13	(4.0)	41	(12.6)	184	(56.4)	1	(0.3)
New Mexico	47	0	(0)	0	(0)	1	(2.1)	1	(2.1)	12	(25.5)	0	(0)	1	(2.1)	1	(2.1)	4	(8.5)	7	(14.9)	17	(36.2)	4	(8.5)

Table 40. (Con't) Tuberculosis Risk Factors[1]: Reporting Areas, 2015

Reporting area	Total	MDR patient contact		Missed contact		Infectious TB patient contact		Incomplete LTBI therapy		Diabetes mellitus		Renal disease		TNF-α inhibitors		Post-organ transplantation		Immuno-suppression		Other		None		Missing[2]	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
New York State[3]	188	0	(0)	2	(1.1)	21	(11.2)	8	(4.3)	33	(17.6)	3	(1.6)	1	(0.5)	3	(1.6)	6	(3.2)	26	(13.8)	102	(54.3)	0	(0)
New York City	577	1	(0.2)	1	(0.2)	28	(4.9)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(0.2)	0	(0)	547	(94.8)
North Carolina	199	0	(0)	3	(1.5)	25	(12.6)	15	(7.5)	19	(9.5)	3	(1.5)	2	(1.0)	1	(0.5)	8	(4.0)	45	(22.6)	103	(51.8)	21	(10.6)
North Dakota	9	0	(0)	0	(0)	0	(0)	0	(0)	1	(11.1)	0	(0)	0	(0)	0	(0)	0	(0)	4	(44.4)	5	(55.6)	0	(0)
Ohio	143	0	(0)	1	(0.7)	6	(4.2)	10	(7.0)	19	(13.3)	2	(1.4)	0	(0)	1	(0.7)	5	(3.5)	16	(11.2)	83	(58.0)	0	(0)
Oklahoma	67	0	(0)	3	(4.5)	14	(20.9)	6	(9.0)	18	(26.9)	2	(3.0)	0	(0)	0	(0)	3	(4.5)	4	(6.0)	30	(44.8)	0	(0)
Oregon	76	0	(0)	1	(1.3)	6	(7.9)	0	(0)	11	(14.5)	0	(0)	1	(1.3)	0	(0)	4	(5.3)	15	(19.7)	46	(60.5)	0	(0)
Pennsylvania	200	0	(0)	0	(0)	5	(2.5)	7	(3.5)	20	(10.0)	6	(3.0)	2	(1.0)	1	(0.5)	11	(5.5)	48	(24.0)	106	(53.0)	2	(1.0)
Rhode Island	30	0	(0)	0	(0)	1	(3.3)	3	(10.0)	8	(26.7)	2	(6.7)	0	(0)	0	(0)	2	(6.7)	4	(13.3)	15	(50.0)	0	(0)
South Carolina	104	0	(0)	1	(1.0)	11	(10.6)	1	(1.0)	15	(14.4)	5	(4.8)	2	(1.9)	1	(1.0)	5	(4.8)	11	(10.6)	60	(57.7)	0	(0)
South Dakota	17	0	(0)	3	(17.6)	6	(35.3)	1	(5.9)	4	(23.5)	1	(5.9)	0	(0)	0	(0)	1	(5.9)	3	(17.6)	5	(29.4)	0	(0)
Tennessee	131	0	(0)	3	(2.3)	11	(8.4)	7	(5.3)	17	(13.0)	3	(2.3)	0	(0)	0	(0)	6	(4.6)	24	(18.3)	67	(51.1)	0	(0)
Texas	1,334	0	(0)	4	(0.3)	87	(6.5)	8	(0.6)	207	(15.5)	16	(1.2)	5	(0.4)	6	(0.4)	21	(1.6)	445	(33.4)	613	(46.0)	2	(0.1)
Utah	37	1	(2.7)	0	(0)	5	(13.5)	0	(0)	8	(21.6)	0	(0)	1	(2.7)	0	(0)	1	(2.7)	2	(5.4)	19	(51.4)	0	(0)
Vermont	7	0	(0)	0	(0)	1	(14.3)	1	(14.3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	6	(85.7)	1	(14.3)	0	(0)
Virginia	212	0	(0)	1	(0.5)	7	(3.3)	0	(0)	44	(20.8)	11	(5.2)	4	(1.9)	3	(1.4)	7	(3.3)	25	(11.8)	124	(58.5)	0	(0)
Washington	208	0	(0)	1	(0.5)	13	(6.3)	3	(1.4)	31	(14.9)	10	(4.8)	1	(0.5)	1	(0.5)	12	(5.8)	49	(23.6)	97	(46.6)	11	(5.3)
West Virginia	10	0	(0)	0	(0)	0	(0)	0	(0)	1	(10.0)	0	(0)	0	(0)	0	(0)	1	(10.0)	5	(50.0)	4	(40.0)	0	(0)
Wisconsin	69	1	(1.4)	0	(0)	4	(5.8)	3	(4.3)	8	(11.6)	1	(1.4)	1	(1.4)	0	(0)	7	(10.1)	34	(49.3)	19	(27.5)	0	(0)
Wyoming	4	0	(0)	0	(0)	0	(0)	0	(0)	1	(25.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(25.0)	2	(50.0)
American Samoa[4]	4	0	(0)	0	(0)	0	(0)	2	(50.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(25.0)	1	(25.0)	0	(0)
Fed. States of Micronesia[4]	103	1	(1.0)	2	(1.9)	38	(36.9)	1	(1.0)	13	(12.6)	0	(0)	0	(0)	0	(0)	0	(0)	32	(31.1)	17	(16.5)	1	(1.0)
Guam[4]	76	0	(0)	0	(0)	14	(18.4)	1	(1.3)	14	(18.4)	1	(1.3)	0	(0)	0	(0)	0	(0)	2	(2.6)	39	(51.3)	6	(7.9)
Marshall Islands[4]	137	2	(1.5)	0	(0)	23	(16.8)	0	(0)	35	(25.5)	0	(0)	0	(0)	0	(0)	0	(0)	1	(0.7)	74	(54.0)	2	(1.5)
N. Mariana Islands[4]	27	0	(0)	0	(0)	2	(7.4)	0	(0)	13	(48.1)	1	(3.7)	0	(0)	0	(0)	0	(0)	1	(3.7)	4	(14.8)	7	(25.9)
Puerto Rico[4]	52	0	(0)	0	(0)	3	(5.8)	0	(0)	13	(25.0)	1	(1.9)	0	(0)	1	(1.9)	1	(1.9)	5	(9.6)	33	(63.5)	0	(0)
Republic of Palau[4]	14	0	(0)	0	(0)	0	(0)	0	(0)	4	(28.6)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	9	(64.3)	1	(7.1)
U.S. Virgin Islands[4]	0	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...	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]None of the options for additional risk factors was selected.
[3]Excludes New York City.
[4]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 41. Primary Reason for Tuberculosis Evaluation[1]: Reporting Areas, 2015

Reporting area	Total	TB symptoms		Abnormal chest radiograph		Contact investigation		Targeted testing		Health care worker		Administrative testing		Immigrant medical exam		Incidental lab result		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**9,557**	**5,341**	**(55.9)**	**1,977**	**(20.7)**	**430**	**(4.5)**	**390**	**(4.1)**	**22**	**(0.2)**	**67**	**(0.7)**	**188**	**(2.0)**	**1,087**	**(11.4)**	**55**	**(0.6)**
Alabama	119	35	(29.4)	48	(40.3)	18	(15.1)	1	(0.8)	0	(0)	0	(0)	0	(0)	17	(14.3)	0	(0)
Alaska	68	25	(36.8)	11	(16.2)	18	(26.5)	10	(14.7)	0	(0)	0	(0)	0	(0)	4	(5.9)	0	(0)
Arizona	198	98	(49.5)	28	(14.1)	8	(4.0)	32	(16.2)	0	(0)	0	(0)	9	(4.5)	23	(11.6)	0	(0)
Arkansas	90	51	(56.7)	23	(25.6)	9	(10.0)	1	(1.1)	0	(0)	1	(1.1)	1	(1.1)	4	(4.4)	0	(0)
California	2,133	1,260	(59.1)	459	(21.5)	58	(2.7)	53	(2.5)	4	(0.2)	7	(0.3)	39	(1.8)	240	(11.3)	13	(0.6)
Colorado	73	66	(90.4)	2	(2.7)	3	(4.1)	2	(2.7)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Connecticut	70	57	(81.4)	4	(5.7)	0	(0)	5	(7.1)	0	(0)	0	(0)	0	(0)	4	(5.7)	0	(0)
Delaware	22	16	(72.7)	1	(4.5)	0	(0)	1	(4.5)	0	(0)	0	(0)	1	(4.5)	2	(9.1)	1	(4.5)
District of Columbia	33	27	(81.8)	1	(3.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	5	(15.2)	0	(0)
Florida	602	216	(35.9)	251	(41.7)	21	(3.5)	5	(0.8)	1	(0.2)	1	(0.2)	7	(1.2)	99	(16.4)	1	(0.2)
Georgia	324	181	(55.9)	76	(23.5)	10	(3.1)	9	(2.8)	2	(0.6)	2	(0.6)	10	(3.1)	31	(9.6)	3	(0.9)
Hawaii	127	64	(50.4)	11	(8.7)	9	(7.1)	1	(0.8)	1	(0.8)	13	(10.2)	16	(12.6)	12	(9.4)	0	(0)
Idaho	11	5	(45.5)	4	(36.4)	0	(0)	1	(9.1)	0	(0)	0	(0)	0	(0)	1	(9.1)	0	(0)
Illinois	343	209	(60.9)	48	(14.0)	11	(3.2)	12	(3.5)	1	(0.3)	2	(0.6)	13	(3.8)	47	(13.7)	0	(0)
Indiana	116	49	(42.2)	23	(19.8)	13	(11.2)	1	(0.9)	0	(0)	5	(4.3)	8	(6.9)	17	(14.7)	0	(0)
Iowa	38	26	(68.4)	5	(13.2)	2	(5.3)	0	(0)	0	(0)	4	(10.5)	1	(2.6)	0	(0)	0	(0)
Kansas	36	22	(61.1)	3	(8.3)	0	(0)	0	(0)	0	(0)	1	(2.8)	0	(0)	9	(25.0)	1	(2.8)
Kentucky	67	25	(37.3)	21	(31.3)	6	(9.0)	2	(3.0)	0	(0)	1	(1.5)	6	(9.0)	6	(9.0)	0	(0)
Louisiana	119	78	(65.5)	24	(20.2)	6	(5.0)	3	(2.5)	0	(0)	0	(0)	3	(2.5)	5	(4.2)	0	(0)
Maine	18	9	(50.0)	2	(11.1)	2	(11.1)	0	(0)	0	(0)	0	(0)	1	(5.6)	4	(22.2)	0	(0)
Maryland	176	107	(60.8)	43	(24.4)	5	(2.8)	2	(1.1)	2	(1.1)	2	(1.1)	1	(0.6)	14	(8.0)	0	(0)
Massachusetts	192	134	(69.8)	45	(23.4)	2	(1.0)	0	(0)	1	(0.5)	2	(1.0)	0	(0)	8	(4.2)	0	(0)
Michigan	131	64	(48.9)	39	(29.8)	3	(2.3)	4	(3.1)	0	(0)	0	(0)	0	(0)	21	(16.0)	0	(0)
Minnesota	150	130	(86.7)	3	(2.0)	4	(2.7)	1	(0.7)	1	(0.7)	1	(0.7)	8	(5.3)	2	(1.3)	0	(0)
Mississippi	74	14	(18.9)	28	(37.8)	3	(4.1)	6	(8.1)	0	(0)	1	(1.4)	1	(1.4)	20	(27.0)	1	(1.4)
Missouri	92	43	(46.7)	5	(5.4)	5	(5.4)	8	(8.7)	2	(2.2)	0	(0)	1	(1.1)	3	(3.3)	25	(27.2)
Montana	9	6	(66.7)	2	(22.2)	1	(11.1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Nebraska	33	24	(72.7)	1	(3.0)	3	(9.1)	1	(3.0)	0	(0)	0	(0)	1	(3.0)	3	(9.1)	0	(0)
Nevada	85	57	(67.1)	10	(11.8)	1	(1.2)	1	(1.2)	0	(0)	2	(2.4)	3	(3.5)	11	(12.9)	0	(0)
New Hampshire	13	3	(23.1)	6	(46.2)	0	(0)	1	(7.7)	0	(0)	0	(0)	1	(7.7)	1	(7.7)	1	(7.7)
New Jersey	326	177	(54.3)	79	(24.2)	12	(3.7)	2	(0.6)	1	(0.3)	0	(0)	3	(0.9)	52	(16.0)	0	(0)
New Mexico	47	34	(72.3)	7	(14.9)	0	(0)	3	(6.4)	0	(0)	0	(0)	1	(2.1)	2	(4.3)	0	(0)

Table 41. (Con't) Primary Reason for Tuberculosis Evaluation[1]: Reporting Areas, 2015

Reporting area	Total	TB symptoms		Abnormal chest radiograph		Contact investigation		Targeted testing		Health care worker		Administrative testing		Immigrant medical exam		Incidental lab result		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
New York State[2]	188	89	(47.3)	43	(22.9)	14	(7.4)	4	(2.1)	0	(0)	0	(0)	0	(0)	35	(18.6)	3	(1.6)
New York City	577	305	(52.9)	124	(21.5)	15	(2.6)	8	(1.4)	1	(0.2)	8	(1.4)	8	(1.4)	107	(18.5)	1	(0.2)
North Carolina	199	53	(26.6)	60	(30.2)	29	(14.6)	0	(0)	1	(0.5)	1	(0.5)	0	(0)	55	(27.6)	0	(0)
North Dakota	9	6	(66.7)	0	(0)	0	(0)	2	(22.2)	0	(0)	0	(0)	0	(0)	1	(11.1)	0	(0)
Ohio	143	66	(46.2)	44	(30.8)	3	(2.1)	3	(2.1)	0	(0)	1	(0.7)	1	(0.7)	25	(17.5)	0	(0)
Oklahoma	67	35	(52.2)	12	(17.9)	3	(4.5)	4	(6.0)	0	(0)	1	(1.5)	3	(4.5)	9	(13.4)	0	(0)
Oregon	76	65	(85.5)	1	(1.3)	2	(2.6)	2	(2.6)	0	(0)	0	(0)	4	(5.3)	2	(2.6)	0	(0)
Pennsylvania	200	111	(55.5)	55	(27.5)	3	(1.5)	10	(5.0)	0	(0)	3	(1.5)	4	(2.0)	14	(7.0)	0	(0)
Rhode Island	30	14	(46.7)	11	(36.7)	1	(3.3)	1	(3.3)	0	(0)	0	(0)	0	(0)	3	(10.0)	0	(0)
South Carolina	104	41	(39.4)	34	(32.7)	10	(9.6)	2	(1.9)	0	(0)	0	(0)	0	(0)	17	(16.3)	0	(0)
South Dakota	17	5	(29.4)	4	(23.5)	5	(29.4)	0	(0)	0	(0)	0	(0)	0	(0)	3	(17.6)	0	(0)
Tennessee	131	49	(37.4)	44	(33.6)	3	(2.3)	3	(2.3)	0	(0)	2	(1.5)	4	(3.1)	26	(19.8)	0	(0)
Texas	1,334	841	(63.0)	147	(11.0)	88	(6.6)	178	(13.3)	4	(0.3)	1	(0.1)	16	(1.2)	59	(4.4)	0	(0)
Utah	37	25	(67.6)	1	(2.7)	6	(16.2)	0	(0)	0	(0)	2	(5.4)	3	(8.1)	0	(0)	0	(0)
Vermont	7	5	(71.4)	2	(28.6)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Virginia	212	163	(76.9)	31	(14.6)	4	(1.9)	3	(1.4)	0	(0)	1	(0.5)	0	(0)	10	(4.7)	0	(0)
Washington	208	113	(54.3)	39	(18.8)	8	(3.8)	0	(0)	0	(0)	2	(1.0)	7	(3.4)	34	(16.3)	5	(2.4)
West Virginia	10	5	(50.0)	2	(20.0)	0	(0)	1	(10.0)	0	(0)	0	(0)	0	(0)	2	(20.0)	0	(0)
Wisconsin	69	34	(49.3)	10	(14.5)	3	(4.3)	1	(1.4)	0	(0)	0	(0)	3	(4.3)	18	(26.1)	0	(0)
Wyoming	4	4	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
American Samoa[3]	4	3	(75.0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(25.0)	0	(0)	0	(0)	0	(0)
Fed. States of Micronesia[3]	103	87	(84.5)	6	(5.8)	9	(8.7)	0	(0)	0	(0)	0	(0)	0	(0)	1	(1.0)	0	(0)
Guam[3]	76	30	(39.5)	10	(13.2)	15	(19.7)	0	(0)	0	(0)	0	(0)	8	(10.5)	13	(17.1)	0	(0)
Marshall Islands[3]	137	108	(78.8)	24	(17.5)	3	(2.2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(1.5)
N. Mariana Islands[3]	27	15	(55.6)	10	(37.0)	2	(7.4)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Puerto Rico[3]	52	24	(46.2)	26	(50.0)	1	(1.9)	0	(0)	0	(0)	1	(1.9)	0	(0)	0	(0)	0	(0)
Republic of Palau[3]	14	9	(64.3)	2	(14.3)	1	(7.1)	0	(0)	0	(0)	0	(0)	1	(7.1)	1	(7.1)	0	(0)
U.S. Virgin Islands[3]	0	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...

[1]Each TB patient has only one primary reason for TB evaluation.
[2]Excludes New York City.
[3]Not 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 Residence in and Type of Correctional Facilities,[1] Ages ≥15 Years: Reporting Areas, 2015

Reporting Area	Total cases	Cases with information on residence in correctional facilities		Cases reported as residents of correctional facilities[2]	
		No.	(%)	No.	(%)
United States	**9,115**	**9,095**	**(99.8)**	**330**	**(3.6)**
Alabama	116	116	(100.0)	8	(6.9)
Alaska	55	55	(100.0)	2	(3.6)
Arizona	184	184	(100.0)	37	(20.1)
Arkansas	78	78	(100.0)	0	(0)
California	2,065	2,063	(99.9)	41	(2.0)
Colorado	66	66	(100.0)	0	(0)
Connecticut	70	70	(100.0)	0	(0)
Delaware	19	19	(100.0)	0	(0)
District of Columbia	31	31	(100.0)	0	(0)
Florida	581	581	(100.0)	11	(1.9)
Georgia	306	305	(99.7)	8	(2.6)
Hawaii	119	119	(100.0)	0	(0)
Idaho	9	8	(88.9)	0	(0)
Illinois	330	330	(100.0)	3	(0.9)
Indiana	112	112	(100.0)	5	(4.5)
Iowa	36	36	(100.0)	0	(0)
Kansas	35	35	(100.0)	1	(2.9)
Kentucky	64	64	(100.0)	3	(4.7)
Louisiana	114	113	(99.1)	4	(3.5)
Maine	16	16	(100.0)	0	(0)
Maryland	169	167	(98.8)	0	(0)
Massachusetts	185	184	(99.5)	1	(0.5)
Michigan	128	128	(100.0)	2	(1.6)
Minnesota	140	140	(100.0)	3	(2.1)
Mississippi	71	71	(100.0)	1	(1.4)
Missouri	84	83	(98.8)	0	(0)
Montana	9	9	(100.0)	0	(0)
Nebraska	31	29	(93.5)	0	(0)
Nevada	84	84	(100.0)	2	(2.4)
New Hampshire	12	12	(100.0)	0	(0)
New Jersey	316	316	(100.0)	4	(1.3)
New Mexico	46	46	(100.0)	4	(8.7)
New York State[5]	173	173	(100.0)	2	(1.2)
New York City	560	554	(98.9)	5	(0.9)
North Carolina	189	189	(100.0)	5	(2.6)
North Dakota	9	9	(100.0)	1	(11.1)
Ohio	138	138	(100.0)	1	(0.7)
Oklahoma	62	62	(100.0)	5	(8.1)
Oregon	72	72	(100.0)	1	(1.4)
Pennsylvania	196	195	(99.5)	3	(1.5)
Rhode Island	30	30	(100.0)	0	(0)
South Carolina	98	98	(100.0)	7	(7.1)
South Dakota	16	16	(100.0)	0	(0)
Tennessee	125	124	(99.2)	4	(3.2)
Texas	1,250	1,250	(100.0)	150	(12.0)
Utah	30	30	(100.0)	0	(0)
Vermont	7	7	(100.0)	0	(0)
Virginia	202	202	(100.0)	1	(0.5)
Washington	196	195	(99.5)	5	(2.6)
West Virginia	9	9	(100.0)	0	(0)
Wisconsin	68	68	(100.0)	0	(0)
Wyoming	4	4	(100.0)	0	(0)
American Samoa[6]	4	4	(100.0)	0	(0)
Fed. States of Micronesia[6]	82	82	(100.0)	0	(0)
Guam[6]	60	60	(100.0)	1	(1.7)
Marshall Islands[6]	108	108	(100.0)	0	(0)
N. Mariana Islands[6]	24	24	(100.0)	0	(0)
Puerto Rico[6]	52	52	(100.0)	0	(0)
Republic of Palau[6]	13	13	(100.0)	0	(0)
U.S. Virgin Islands[6]	0	0	...	0	...

Table 42. (Con't) Tuberculosis Cases and Percentages, by Residence in and Type of Correctional Facilities,[1] Ages ≥15 Years: Reporting Areas, 2015

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.	(%)
59	**(17.9)**	**67**	**(20.3)**	**101**	**(30.6)**	**1**	**(0.3)**	**99**	**(30.0)**	**3**	**(0.9)**	**329**	**(99.7)**	**120**	**(36.5)**
0	(0)	6	(75.0)	2	(25.0)	0	(0)	0	(0)	0	(0)	8	(100.0)	0	(0)
0	(0)	1	(50.0)	1	(50.0)	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)
17	(45.9)	3	(8.1)	10	(27.0)	1	(2.7)	6	(16.2)	0	(0)	37	(100.0)	14	(37.8)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
11	(26.8)	5	(12.2)	15	(36.6)	0	(0)	10	(24.4)	0	(0)	41	(100.0)	13	(31.7)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
2	(18.2)	5	(45.5)	2	(18.2)	0	(0)	2	(18.2)	0	(0)	11	(100.0)	2	(18.2)
0	(0)	3	(37.5)	5	(62.5)	0	(0)	0	(0)	0	(0)	8	(100.0)	0	(0)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	(0)	2	(66.7)	1	(33.3)	0	(0)	0	(0)	0	(0)	3	(100.0)	0	(0)
0	(0)	2	(40.0)	3	(60.0)	0	(0)	0	(0)	0	(0)	5	(100.0)	0	(0)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
1	(33.3)	0	(0)	2	(66.7)	0	(0)	0	(0)	0	(0)	3	(100.0)	2	(66.7)
1	(25.0)	0	(0)	3	(75.0)	0	(0)	0	(0)	0	(0)	4	(100.0)	0	(0)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)	1	(100.0)	1	(100.0)
0	(0)	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)	2	(100.0)	1	(50.0)
2	(66.7)	0	(0)	0	(0)	0	(0)	1	(33.3)	0	(0)	3	(100.0)	1	(33.3)
0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	(0)	1	(50.0)	1	(50.0)	0	(0)	0	(0)	0	(0)	2	(100.0)	0	(0)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
2	(50.0)	1	(25.0)	0	(0)	0	(0)	1	(25.0)	0	(0)	4	(100.0)	2	(50.0)
0	(0)	0	(0)	0	(0)	0	(0)	4	(100.0)	0	(0)	4	(100.0)	4	(100.0)
0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(100.0)	2	(100.0)	1	(50.0)
0	(0)	1	(20.0)	3	(60.0)	0	(0)	0	(0)	1	(20.0)	5	(100.0)	0	(0)
3	(60.0)	1	(20.0)	1	(20.0)	0	(0)	0	(0)	0	(0)	5	(100.0)	2	(40.0)
0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	1	(100.0)
0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)	1	(100.0)	0	(0)
0	(0)	3	(60.0)	2	(40.0)	0	(0)	0	(0)	0	(0)	5	(100.0)	0	(0)
0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
0	(0)	0	(0)	3	(100.0)	0	(0)	0	(0)	0	(0)	3	(100.0)	0	(0)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
1	(14.3)	3	(42.9)	3	(42.9)	0	(0)	0	(0)	0	(0)	7	(100.0)	1	(14.3)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	(0)	1	(25.0)	3	(75.0)	0	(0)	0	(0)	0	(0)	4	(100.0)	1	(25.0)
19	(12.7)	28	(18.7)	38	(25.3)	0	(0)	65	(43.3)	0	(0)	150	(100.0)	68	(45.3)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)	1	(100.0)	1	(100.0)
0	(0)	0	(0)	0	(0)	0	(0)	5	(100.0)	0	(0)	5	(100.0)	5	(100.0)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...
0	...	0	...	0	...	0	...	0	...	0	...	0	...	0	...

[1]Resident of correctional facility at time of TB diagnosis. Percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia). Counts and percentages shown only for reporting areas with information reported for ≥75% of cases.
[2]Percent of those with known status.
[3]Excludes youth who are <15 years of age.
[4]Immigration and Customs Enforcement (ICE) detainment among cases who were residents in correctional facilities.
[5]Excludes New York City.
[6]Not included in U.S. totals.

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

See Surveillance Slide #28.

Table 43. Tuberculosis Cases and Percentages, by Homeless Status,[1] Ages ≥15 Years: Reporting Areas, 2015

Reporting area	Total cases	Cases with information on homeless status		Cases reported as being homeless[2]	
		No.	(%)	No.	(%)
United States	**9,115**	**9,065**	**(99.5)**	**495**	**(5.5)**
Alabama	116	116	(100.0)	7	(6.0)
Alaska	55	55	(100.0)	9	(16.4)
Arizona	184	173	(94.0)	11	(6.4)
Arkansas	78	78	(100.0)	4	(5.1)
California	2,065	2,058	(99.7)	115	(5.6)
Colorado	66	66	(100.0)	1	(1.5)
Connecticut	70	70	(100.0)	1	(1.4)
Delaware	19	19	(100.0)	1	(5.3)
District of Columbia	31	31	(100.0)	0	(0)
Florida	581	573	(98.6)	46	(8.0)
Georgia	306	303	(99.0)	26	(8.6)
Hawaii	119	119	(100.0)	2	(1.7)
Idaho	9	9	(100.0)	0	(0)
Illinois	330	328	(99.4)	12	(3.7)
Indiana	112	112	(100.0)	7	(6.3)
Iowa	36	36	(100.0)	0	(0)
Kansas	35	35	(100.0)	6	(17.1)
Kentucky	64	64	(100.0)	7	(10.9)
Louisiana	114	113	(99.1)	6	(5.3)
Maine	16	16	(100.0)	1	(6.3)
Maryland	169	168	(99.4)	7	(4.2)
Massachusetts	185	184	(99.5)	7	(3.8)
Michigan	128	128	(100.0)	7	(5.5)
Minnesota	140	140	(100.0)	5	(3.6)
Mississippi	71	71	(100.0)	9	(12.7)
Missouri	84	83	(98.8)	1	(1.2)
Montana	9	9	(100.0)	0	(0)
Nebraska	31	29	(93.5)	0	(0)
Nevada	84	84	(100.0)	7	(8.3)
New Hampshire	12	12	(100.0)	0	(0)
New Jersey	316	316	(100.0)	10	(3.2)
New Mexico	46	44	(95.7)	5	(11.4)
New York State[3]	173	173	(100.0)	5	(2.9)
New York City	560	558	(99.6)	19	(3.4)
North Carolina	189	189	(100.0)	11	(5.8)
North Dakota	9	9	(100.0)	0	(0)
Ohio	138	138	(100.0)	6	(4.3)
Oklahoma	62	62	(100.0)	2	(3.2)
Oregon	72	72	(100.0)	8	(11.1)
Pennsylvania	196	195	(99.5)	5	(2.6)
Rhode Island	30	29	(96.7)	0	(0)
South Carolina	98	96	(98.0)	4	(4.2)
South Dakota	16	16	(100.0)	3	(18.8)
Tennessee	125	125	(100.0)	10	(8.0)
Texas	1,250	1,250	(100.0)	90	(7.2)
Utah	30	30	(100.0)	2	(6.7)
Vermont	7	7	(100.0)	1	(14.3)
Virginia	202	202	(100.0)	2	(1.0)
Washington	196	191	(97.4)	6	(3.1)
West Virginia	9	9	(100.0)	0	(0)
Wisconsin	68	68	(100.0)	1	(1.5)
Wyoming	4	4	(100.0)	0	(0)
American Samoa[4]	4	4	(100.0)	0	(0)
Fed. States of Micronesia[4]	82	82	(100.0)	1	(1.2)
Guam[4]	60	60	(100.0)	0	(0)
Marshall Islands[4]	108	108	(100.0)	0	(0)
N. Mariana Islands[4]	24	24	(100.0)	1	(4.2)
Puerto Rico[4]	52	52	(100.0)	4	(7.7)
Republic of Palau[4]	13	13	(100.0)	0	(0)
U.S. Virgin Islands[4]	0	0	...	0	...

[1]Homeless within past 12 months of TB diagnosis. Percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia). Counts and percentages shown only for reporting areas with information reported for ≥75% of cases.
[2]Percent of those with known status.
[3]Excludes New York City.
[4]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.
See Surveillance Slide #29

Table 44. Tuberculosis Cases and Percentages, by Residence in Long-Term Care Facilities,[1] Ages ≥15 Years: Reporting Areas, 2015

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	**9,115**	**9,099**	**(99.8)**	**171**	**(1.9)**
Alabama	116	116	(100.0)	2	(1.7)
Alaska	55	55	(100.0)	1	(1.8)
Arizona	184	184	(100.0)	3	(1.6)
Arkansas	78	78	(100.0)	1	(1.3)
California	2,065	2,065	(100.0)	58	(2.8)
Colorado	66	66	(100.0)	1	(1.5)
Connecticut	70	70	(100.0)	1	(1.4)
Delaware	19	19	(100.0)	1	(5.3)
District of Columbia	31	31	(100.0)	2	(6.5)
Florida	581	581	(100.0)	0	(0)
Georgia	306	305	(99.7)	4	(1.3)
Hawaii	119	119	(100.0)	3	(2.5)
Idaho	9	9	(100.0)	0	(0)
Illinois	330	330	(100.0)	7	(2.1)
Indiana	112	112	(100.0)	2	(1.8)
Iowa	36	36	(100.0)	0	(0)
Kansas	35	35	(100.0)	0	(0)
Kentucky	64	64	(100.0)	7	(10.9)
Louisiana	114	113	(99.1)	4	(3.5)
Maine	16	16	(100.0)	0	(0)
Maryland	169	168	(99.4)	5	(3.0)
Massachusetts	185	184	(99.5)	1	(0.5)
Michigan	128	128	(100.0)	2	(1.6)
Minnesota	140	140	(100.0)	0	(0)
Mississippi	71	71	(100.0)	1	(1.4)
Missouri	84	83	(98.8)	3	(3.6)
Montana	9	9	(100.0)	0	(0)
Nebraska	31	29	(93.5)	0	(0)
Nevada	84	84	(100.0)	1	(1.2)
New Hampshire	12	12	(100.0)	0	(0)
New Jersey	316	316	(100.0)	5	(1.6)
New Mexico	46	46	(100.0)	0	(0)
New York State[3]	173	173	(100.0)	2	(1.2)
New York City	560	554	(98.9)	10	(1.8)
North Carolina	189	189	(100.0)	5	(2.6)
North Dakota	9	9	(100.0)	0	(0)
Ohio	138	138	(100.0)	5	(3.6)
Oklahoma	62	62	(100.0)	1	(1.6)
Oregon	72	72	(100.0)	2	(2.8)
Pennsylvania	196	195	(99.5)	3	(1.5)
Rhode Island	30	30	(100.0)	4	(13.3)
South Carolina	98	98	(100.0)	1	(1.0)
South Dakota	16	16	(100.0)	0	(0)
Tennessee	125	125	(100.0)	2	(1.6)
Texas	1,250	1,250	(100.0)	19	(1.5)
Utah	30	30	(100.0)	0	(0)
Vermont	7	7	(100.0)	0	(0)
Virginia	202	202	(100.0)	2	(1.0)
Washington	196	194	(99.0)	0	(0)
West Virginia	9	9	(100.0)	0	(0)
Wisconsin	68	68	(100.0)	0	(0)
Wyoming	4	4	(100.0)	0	(0)
American Samoa[4]	4	4	(100.0)	0	(0)
Fed. States of Micronesia[4]	82	82	(100.0)	1	(1.2)
Guam[4]	60	60	(100.0)	0	(0)
Marshall Islands[4]	108	108	(100.0)	0	(0)
N. Mariana Islands[4]	24	24	(100.0)	0	(0)
Puerto Rico[4]	52	52	(100.0)	1	(1.9)
Republic of Palau[4]	13	13	(100.0)	0	(0)
U.S. Virgin Islands[4]	0	0	...	0	...

[1]Resident 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). Counts and percentages shown only for reporting areas with information reported for ≥75% of cases.
[2]Percent of those with known status.
[3]Excludes New York City.
[4]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 45. Tuberculosis Cases and Percentages, by Injecting Drug Use,[1] Ages ≥15 Years: Reporting Areas, 2015

Reporting area	Total cases	Cases with information on injecting drug use		Cases reporting injecting drug use	
		No.	(%)	No.	(%)
United States	**9,115**	**9,016**	**(98.9)**	**146**	**(1.6)**
Alabama	116	116	(100.0)	1	(0.9)
Alaska	55	52	(94.5)	2	(3.8)
Arizona	184	180	(97.8)	8	(4.4)
Arkansas	78	78	(100.0)	1	(1.3)
California	2,065	2,037	(98.6)	27	(1.3)
Colorado	66	66	(100.0)	0	(0)
Connecticut	70	70	(100.0)	0	(0)
Delaware	19	18	(94.7)	0	(0)
District of Columbia	31	31	(100.0)	2	(6.5)
Florida	581	574	(98.8)	16	(2.8)
Georgia	306	300	(98.0)	2	(0.7)
Hawaii	119	119	(100.0)	0	(0)
Idaho	9	9	(100.0)	0	(0)
Illinois	330	330	(100.0)	7	(2.1)
Indiana	112	112	(100.0)	6	(5.4)
Iowa	36	36	(100.0)	0	(0)
Kansas	35	35	(100.0)	1	(2.9)
Kentucky	64	64	(100.0)	1	(1.6)
Louisiana	114	111	(97.4)	5	(4.5)
Maine	16	16	(100.0)	0	(0)
Maryland	169	168	(99.4)	1	(0.6)
Massachusetts	185	184	(99.5)	2	(1.1)
Michigan	128	125	(97.7)	3	(2.4)
Minnesota	140	140	(100.0)	0	(0)
Mississippi	71	70	(98.6)	2	(2.9)
Missouri	84	83	(98.8)	1	(1.2)
Montana	9	8	(88.9)	0	(0)
Nebraska	31	29	(93.5)	0	(0)
Nevada	84	84	(100.0)	1	(1.2)
New Hampshire	12	12	(100.0)	0	(0)
New Jersey	316	313	(99.1)	3	(1.0)
New Mexico	46	44	(95.7)	1	(2.3)
New York State[2]	173	169	(97.7)	0	(0)
New York City	560	558	(99.6)	0	(0)
North Carolina	189	189	(100.0)	3	(1.6)
North Dakota	9	9	(100.0)	0	(0)
Ohio	138	138	(100.0)	1	(0.7)
Oklahoma	62	61	(98.4)	2	(3.3)
Oregon	72	70	(97.2)	0	(0)
Pennsylvania	196	194	(99.0)	2	(1.0)
Rhode Island	30	27	(90.0)	0	(0)
South Carolina	98	95	(96.9)	1	(1.1)
South Dakota	16	15	(93.8)	0	(0)
Tennessee	125	124	(99.2)	3	(2.4)
Texas	1,250	1,250	(100.0)	37	(3.0)
Utah	30	30	(100.0)	0	(0)
Vermont	7	7	(100.0)	0	(0)
Virginia	202	202	(100.0)	2	(1.0)
Washington	196	183	(93.4)	0	(0)
West Virginia	9	9	(100.0)	0	(0)
Wisconsin	68	68	(100.0)	2	(2.9)
Wyoming	4	4	(100.0)	0	(0)
American Samoa[3]	4	4	(100.0)	0	(0)
Fed. States of Micronesia[3]	82	82	(100.0)	0	(0)
Guam[3]	60	58	(96.7)	0	(0)
Marshall Islands[3]	108	108	(100.0)	0	(0)
N. Mariana Islands[3]	24	24	(100.0)	0	(0)
Puerto Rico[3]	52	52	(100.0)	7	(13.5)
Republic of Palau[3]	13	13	(100.0)	0	(0)
U.S. Virgin Islands[3]	0	0	...	0	...

[1]Injecting 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). Counts and percentages shown only for reporting areas with information reported for ≥75% of cases.
[2]Excludes New York City.
[3]Not 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 Noninjecting Drug Use,[1] Ages ≥15 Years: Reporting Areas, 2015

Reporting area	Total cases	Cases with information on noninjecting drug use		Cases reporting noninjecting drug use	
		No.	(%)	No.	(%)
United States	**9,115**	**9,015**	**(98.9)**	**653**	**(7.2)**
Alabama	116	116	(100.0)	17	(14.7)
Alaska	55	52	(94.5)	12	(23.1)
Arizona	184	181	(98.4)	23	(12.7)
Arkansas	78	78	(100.0)	8	(10.3)
California	2,065	2,033	(98.5)	111	(5.5)
Colorado	66	66	(100.0)	1	(1.5)
Connecticut	70	70	(100.0)	2	(2.9)
Delaware	19	19	(100.0)	0	(0)
District of Columbia	31	31	(100.0)	1	(3.2)
Florida	581	574	(98.8)	53	(9.2)
Georgia	306	300	(98.0)	28	(9.3)
Hawaii	119	119	(100.0)	3	(2.5)
Idaho	9	9	(100.0)	0	(0)
Illinois	330	329	(99.7)	24	(7.3)
Indiana	112	112	(100.0)	14	(12.5)
Iowa	36	36	(100.0)	0	(0)
Kansas	35	35	(100.0)	4	(11.4)
Kentucky	64	64	(100.0)	9	(14.1)
Louisiana	114	111	(97.4)	14	(12.6)
Maine	16	16	(100.0)	0	(0)
Maryland	169	168	(99.4)	5	(3.0)
Massachusetts	185	184	(99.5)	5	(2.7)
Michigan	128	127	(99.2)	11	(8.7)
Minnesota	140	140	(100.0)	2	(1.4)
Mississippi	71	70	(98.6)	14	(20.0)
Missouri	84	83	(98.8)	4	(4.8)
Montana	9	9	(100.0)	1	(11.1)
Nebraska	31	27	(87.1)	1	(3.7)
Nevada	84	84	(100.0)	4	(4.8)
New Hampshire	12	12	(100.0)	0	(0)
New Jersey	316	313	(99.1)	9	(2.9)
New Mexico	46	43	(93.5)	4	(9.3)
New York State[2]	173	169	(97.7)	2	(1.2)
New York City	560	557	(99.5)	31	(5.6)
North Carolina	189	189	(100.0)	33	(17.5)
North Dakota	9	8	(88.9)	0	(0)
Ohio	138	138	(100.0)	7	(5.1)
Oklahoma	62	61	(98.4)	7	(11.5)
Oregon	72	71	(98.6)	7	(9.9)
Pennsylvania	196	194	(99.0)	9	(4.6)
Rhode Island	30	27	(90.0)	2	(7.4)
South Carolina	98	96	(98.0)	10	(10.4)
South Dakota	16	15	(93.8)	2	(13.3)
Tennessee	125	124	(99.2)	14	(11.3)
Texas	1,250	1,250	(100.0)	131	(10.5)
Utah	30	30	(100.0)	0	(0)
Vermont	7	7	(100.0)	1	(14.3)
Virginia	202	202	(100.0)	4	(2.0)
Washington	196	185	(94.4)	4	(2.2)
West Virginia	9	9	(100.0)	0	(0)
Wisconsin	68	68	(100.0)	5	(7.4)
Wyoming	4	4	(100.0)	0	(0)
American Samoa[3]	4	4	(100.0)	0	(0)
Fed. States of Micronesia[3]	82	82	(100.0)	3	(3.7)
Guam[3]	60	58	(96.7)	0	(0)
Marshall Islands[3]	108	108	(100.0)	0	(0)
N. Mariana Islands[3]	24	24	(100.0)	0	(0)
Puerto Rico[3]	52	52	(100.0)	12	(23.1)
Republic of Palau[3]	13	13	(100.0)	0	(0)
U.S. Virgin Islands[3]	0	0	...	0	...

[1]Noninjecting 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). Counts and percentages shown only for reporting areas with information reported for ≥75% of cases.
[2]Excludes New York City.
[3]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 47. Tuberculosis Cases and Percentages, by Excess Alcohol Use,[1] Ages ≥15 Years: Reporting Areas, 2015

Reporting area	Total cases	Cases with information on excess alcohol use		Cases reporting excess alcohol use	
		No.	(%)	No.	(%)
United States	**9,115**	**9,000**	**(98.7)**	**977**	**(10.9)**
Alabama	116	116	(100.0)	12	(10.3)
Alaska	55	52	(94.5)	21	(40.4)
Arizona	184	179	(97.3)	17	(9.5)
Arkansas	78	78	(100.0)	8	(10.3)
California	2,065	2,036	(98.6)	158	(7.8)
Colorado	66	66	(100.0)	3	(4.5)
Connecticut	70	70	(100.0)	3	(4.3)
Delaware	19	19	(100.0)	2	(10.5)
District of Columbia	31	31	(100.0)	4	(12.9)
Florida	581	574	(98.8)	95	(16.6)
Georgia	306	300	(98.0)	41	(13.7)
Hawaii	119	119	(100.0)	14	(11.8)
Idaho	9	9	(100.0)	0	(0)
Illinois	330	329	(99.7)	39	(11.9)
Indiana	112	112	(100.0)	10	(8.9)
Iowa	36	36	(100.0)	2	(5.6)
Kansas	35	35	(100.0)	6	(17.1)
Kentucky	64	64	(100.0)	10	(15.6)
Louisiana	114	110	(96.5)	20	(18.2)
Maine	16	16	(100.0)	0	(0)
Maryland	169	168	(99.4)	9	(5.4)
Massachusetts	185	184	(99.5)	11	(6.0)
Michigan	128	127	(99.2)	17	(13.4)
Minnesota	140	140	(100.0)	9	(6.4)
Mississippi	71	70	(98.6)	15	(21.4)
Missouri	84	83	(98.8)	7	(8.4)
Montana	9	9	(100.0)	4	(44.4)
Nebraska	31	28	(90.3)	2	(7.1)
Nevada	84	84	(100.0)	8	(9.5)
New Hampshire	12	12	(100.0)	1	(8.3)
New Jersey	316	313	(99.1)	17	(5.4)
New Mexico	46	44	(95.7)	6	(13.6)
New York State[2]	173	166	(96.0)	14	(8.4)
New York City	560	543	(97.0)	5	(0.9)
North Carolina	189	189	(100.0)	27	(14.3)
North Dakota	9	9	(100.0)	1	(11.1)
Ohio	138	138	(100.0)	9	(6.5)
Oklahoma	62	59	(95.2)	10	(16.9)
Oregon	72	72	(100.0)	11	(15.3)
Pennsylvania	196	194	(99.0)	15	(7.7)
Rhode Island	30	28	(93.3)	6	(21.4)
South Carolina	98	95	(96.9)	25	(26.3)
South Dakota	16	15	(93.8)	1	(6.7)
Tennessee	125	125	(100.0)	14	(11.2)
Texas	1,250	1,250	(100.0)	221	(17.7)
Utah	30	30	(100.0)	4	(13.3)
Vermont	7	7	(100.0)	0	(0)
Virginia	202	202	(100.0)	17	(8.4)
Washington	196	184	(93.9)	13	(7.1)
West Virginia	9	9	(100.0)	0	(0)
Wisconsin	68	68	(100.0)	13	(19.1)
Wyoming	4	4	(100.0)	0	(0)
American Samoa[3]	4	3	(75.0)	0	(0)
Fed. States of Micronesia[3]	82	82	(100.0)	2	(2.4)
Guam[3]	60	59	(98.3)	2	(3.4)
Marshall Islands[3]	108	107	(99.1)	23	(21.5)
N. Mariana Islands[3]	24	24	(100.0)	1	(4.2)
Puerto Rico[3]	52	52	(100.0)	10	(19.2)
Republic of Palau[3]	13	13	(100.0)	0	(0)
U.S. Virgin Islands[3]	0	0	...	0	...

[1]Excess 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). Counts and percentages shown only for reporting areas with information reported for ≥75% of cases.
[2]Excludes New York City.
[3]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 48. Tuberculosis Cases and Percentages, by Primary Occupation, Ages ≥15 Years: Reporting Areas, 2015

Reporting area	Total cases	Cases with information on occupation		Percentage of cases by occupation[1]						
		No.	(%)	Unemployed	Health care worker	Correctional employee	Migrant worker	Retired	Not seeking employment	Other
United States	**9,115**	**8,953**	**(98.2)**	**(24.4)**	**(3.9)**	**(0.1)**	**(1.2)**	**(17.1)**	**(16.3)**	**(37.1)**
Alabama	116	116	(100.0)	(16.4)	(1.7)	(0.9)	(0.9)	(22.4)	(22.4)	(35.3)
Alaska	55	50	(90.9)	(32.0)	(2.0)	(0)	(8.0)	(16.0)	(24.0)	(18.0)
Arizona	184	164	(89.1)	(13.4)	(4.3)	(0.6)	(4.9)	(27.4)	(11.6)	(37.8)
Arkansas	78	78	(100.0)	(10.3)	(2.6)	(0)	(2.6)	(24.4)	(17.9)	(42.3)
California	2,065	2,035	(98.5)	(18.8)	(4.5)	(0.1)	(1.5)	(23.7)	(17.7)	(33.6)
Colorado	66	66	(100.0)	(6.1)	(4.5)	(0)	(1.5)	(25.8)	(19.7)	(42.4)
Connecticut	70	70	(100.0)	(14.3)	(5.7)	(0)	(0)	(12.9)	(17.1)	(50.0)
Delaware	19	19	(100.0)	(26.3)	(0)	(0)	(0)	(10.5)	(10.5)	(52.6)
District of Columbia	31	31	(100.0)	(61.3)	(0)	(0)	(0)	(9.7)	(0)	(29.0)
Florida	581	573	(98.6)	(57.1)	(4.0)	(0)	(1.6)	(4.5)	(1.9)	(30.9)
Georgia	306	291	(95.1)	(37.5)	(3.4)	(0)	(0.3)	(8.6)	(14.8)	(35.4)
Hawaii	119	114	(95.8)	(19.3)	(1.8)	(0)	(0.9)	(14.0)	(15.8)	(48.2)
Idaho	9	7	(77.8)	(0)	(0)	(0)	(14.3)	(14.3)	(28.6)	(42.9)
Illinois	330	328	(99.4)	(15.9)	(4.6)	(0)	(0)	(21.3)	(17.1)	(41.2)
Indiana	112	111	(99.1)	(15.3)	(5.4)	(0)	(0.9)	(13.5)	(29.7)	(35.1)
Iowa	36	36	(100.0)	(5.6)	(2.8)	(0)	(0)	(5.6)	(27.8)	(58.3)
Kansas	35	35	(100.0)	(14.3)	(5.7)	(0)	(0)	(5.7)	(20.0)	(54.3)
Kentucky	64	64	(100.0)	(25.0)	(3.1)	(0)	(3.1)	(9.4)	(20.3)	(39.1)
Louisiana	114	101	(88.6)	(15.8)	(1.0)	(0)	(4.0)	(12.9)	(17.8)	(48.5)
Maine	16	16	(100.0)	(12.5)	(6.3)	(0)	(0)	(25.0)	(18.8)	(37.5)
Maryland	169	166	(98.2)	(12.7)	(9.0)	(0)	(1.2)	(13.3)	(20.5)	(43.4)
Massachusetts	185	182	(98.4)	(28.6)	(6.0)	(0)	(0)	(22.5)	(7.1)	(35.7)
Michigan	128	128	(100.0)	(61.7)	(0.8)	(0)	(1.6)	(0)	(0)	(35.9)
Minnesota	140	139	(99.3)	(12.2)	(11.5)	(0)	(0)	(10.8)	(23.0)	(42.4)
Mississippi	71	69	(97.2)	(40.6)	(1.4)	(1.4)	(0)	(26.1)	(1.4)	(29.0)
Missouri	84	74	(88.1)	(13.5)	(5.4)	(0)	(0)	(20.3)	(28.4)	(32.4)
Montana	9	9	(100.0)	(22.2)	(0)	(0)	(0)	(55.6)	(0)	(22.2)
Nebraska	31	30	(96.8)	(16.7)	(0)	(0)	(3.3)	(13.3)	(13.3)	(53.3)
Nevada	84	84	(100.0)	(14.3)	(3.6)	(0)	(0)	(25.0)	(25.0)	(32.1)
New Hampshire	12	12	(100.0)	(16.7)	(8.3)	(0)	(0)	(33.3)	(16.7)	(25.0)
New Jersey	316	314	(99.4)	(17.8)	(2.2)	(0)	(1.0)	(17.2)	(14.3)	(47.5)
New Mexico	46	43	(93.5)	(11.6)	(0)	(0)	(0)	(11.6)	(48.8)	(27.9)
New York State[2]	173	164	(94.8)	(23.2)	(3.0)	(0)	(0)	(22.0)	(11.6)	(40.2)
New York City	560	553	(98.8)	(28.2)	(5.8)	(0)	(1.1)	(16.5)	(5.6)	(42.9)
North Carolina	189	189	(100.0)	(26.5)	(2.1)	(0)	(2.1)	(18.5)	(7.9)	(42.9)
North Dakota	9	0	(0)	—	—	—	—	—	—	—
Ohio	138	138	(100.0)	(21.7)	(2.9)	(0)	(0)	(20.3)	(20.3)	(34.8)
Oklahoma	62	61	(98.4)	(31.1)	(3.3)	(0)	(3.3)	(14.8)	(8.2)	(39.3)
Oregon	72	72	(100.0)	(16.7)	(2.8)	(0)	(0)	(26.4)	(20.8)	(33.3)
Pennsylvania	196	195	(99.5)	(20.5)	(5.1)	(0)	(0.5)	(23.6)	(13.3)	(36.9)
Rhode Island	30	29	(96.7)	(13.8)	(0)	(0)	(3.4)	(24.1)	(17.2)	(41.4)
South Carolina	98	97	(99.0)	(33.0)	(1.0)	(0)	(0)	(18.6)	(9.3)	(38.1)
South Dakota	16	16	(100.0)	(0)	(0)	(0)	(0)	(0)	(56.3)	(43.8)
Tennessee	125	124	(99.2)	(21.0)	(1.6)	(0)	(3.2)	(21.8)	(19.4)	(33.1)
Texas	1,250	1,250	(100.0)	(31.8)	(2.9)	(0)	(0.2)	(9.9)	(21.7)	(33.5)
Utah	30	30	(100.0)	(23.3)	(6.7)	(0)	(0)	(3.3)	(26.7)	(40.0)
Vermont	7	7	(100.0)	(0)	(0)	(0)	(0)	(0)	(28.6)	(71.4)
Virginia	202	202	(100.0)	(8.4)	(3.5)	(0)	(0)	(22.3)	(17.8)	(48.0)
Washington	196	190	(96.9)	(4.2)	(4.2)	(0)	(4.7)	(15.8)	(34.2)	(36.8)
West Virginia	9	9	(100.0)	(33.3)	(0)	(0)	(0)	(33.3)	(11.1)	(22.2)
Wisconsin	68	68	(100.0)	(1.5)	(0)	(0)	(2.9)	(14.7)	(33.8)	(47.1)
Wyoming	4	4	(100.0)	(0)	(0)	(0)	(0)	(50.0)	(25.0)	(25.0)
American Samoa[3]	4	4	(100.0)	(0)	(0)	(0)	(0)	(0)	(0)	(100.0)
Fed. States of Micronesia[3]	82	81	(98.8)	(43.2)	(1.2)	(0)	(0)	(0)	(42.0)	(13.6)
Guam[3]	60	60	(100.0)	(43.3)	(1.7)	(0)	(0)	(13.3)	(5.0)	(36.7)
Marshall Islands[3]	108	107	(99.1)	(40.2)	(0.9)	(0.9)	(0)	(5.6)	(29.0)	(23.4)
N. Mariana Islands[3]	24	24	(100.0)	(0)	(4.2)	(4.2)	(29.2)	(0)	(45.8)	(16.7)
Puerto Rico[3]	52	52	(100.0)	(30.8)	(1.9)	(0)	(0)	(9.6)	(42.3)	(15.4)
Republic of Palau[3]	13	13	(100.0)	(7.7)	(0)	(0)	(23.1)	(38.5)	(15.4)	(15.4)
U.S. Virgin Islands[3]	0	0	...	...	...	...	...	...	...	...

[1]Occupation within past 12 months of TB diagnosis. Overall U.S. percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia). Percentages shown only for reporting areas with information reported for ≥75% of cases.
[2]Excludes New York City.
[3]Not 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 Initial Drug Regimen: Reporting Areas, 2015

Reporting area	Total Cases	Cases in persons alive at diagnosis	Cases with information on initial drug regimen[1]		Percentage of cases in persons with initial drug regimen[2,3]		
			No.	(%)	IR	IRZ	IRZE[3]
United States	**9,557**	**9,344**	**9,274**	**(99.3)**	**(0.5)**	**(2.0)**	**(85.1)**
Alabama	119	117	116	(99.1)	(0)	(2.6)	(81.0)
Alaska	68	63	61	(96.8)	(1.6)	(6.6)	(73.8)
Arizona	198	193	193	(100.0)	(0.5)	(1.6)	(93.8)
Arkansas	90	87	87	(100.0)	(0)	(4.6)	(87.4)
California	2,133	2,091	2,068	(98.9)	(0.1)	(0.9)	(90.2)
Colorado	73	72	72	(100.0)	(0)	(8.3)	(66.7)
Connecticut	70	70	70	(100.0)	(0)	(0)	(18.6)
Delaware	22	21	20	(95.2)	(0)	(0)	(90.0)
District of Columbia	33	30	30	(100.0)	(0)	(0)	(93.3)
Florida	602	583	583	(100.0)	(0.2)	(2.9)	(88.7)
Georgia	324	316	314	(99.4)	(0)	(1.3)	(33.8)
Hawaii	127	126	126	(100.0)	(0)	(3.2)	(92.9)
Idaho	11	11	11	(100.0)	(0)	(0)	(90.9)
Illinois	343	336	333	(99.1)	(1.2)	(3.9)	(86.2)
Indiana	116	114	114	(100.0)	(0)	(0.9)	(94.7)
Iowa	38	38	38	(100.0)	(0)	(2.6)	(97.4)
Kansas	36	35	35	(100.0)	(0)	(0)	(85.7)
Kentucky	67	67	67	(100.0)	(0)	(0)	(89.6)
Louisiana	119	117	115	(98.3)	(0)	(2.6)	(93.9)
Maine	18	17	17	(100.0)	(5.9)	(5.9)	(76.5)
Maryland	176	174	171	(98.3)	(0.6)	(4.1)	(88.3)
Massachusetts	192	190	187	(98.4)	(2.7)	(0.5)	(70.1)
Michigan	131	130	129	(99.2)	(0.8)	(3.9)	(58.1)
Minnesota	150	148	146	(98.6)	(0)	(4.8)	(87.0)
Mississippi	74	72	70	(97.2)	(2.9)	(5.7)	(78.6)
Missouri	92	90	90	(100.0)	(0)	(1.1)	(81.1)
Montana	9	9	8	(88.9)	(0)	(0)	(87.5)
Nebraska	33	33	32	(97.0)	(0)	(3.1)	(71.9)
Nevada	85	82	82	(100.0)	(1.2)	(0)	(98.8)
New Hampshire	13	12	12	(100.0)	(0)	(8.3)	(83.3)
New Jersey	326	316	312	(98.7)	(2.6)	(2.6)	(80.1)
New Mexico	47	42	41	(97.6)	(0)	(4.9)	(90.2)
New York State[4]	188	186	184	(98.9)	(0)	(5.4)	(84.8)
New York City	577	566	566	(100.0)	(0.4)	(1.6)	(85.3)
North Carolina	199	193	192	(99.5)	(0)	(0.5)	(82.3)
North Dakota	9	9	9	(100.0)	(0)	(11.1)	(77.8)
Ohio	143	139	139	(100.0)	(1.4)	(3.6)	(86.3)
Oklahoma	67	64	63	(98.4)	(6.3)	(3.2)	(77.8)
Oregon	76	75	75	(100.0)	(0)	(1.3)	(90.7)
Pennsylvania	200	197	195	(99.0)	(0)	(0)	(84.1)
Rhode Island	30	29	28	(96.6)	(0)	(0)	(89.3)
South Carolina	104	100	100	(100.0)	(1.0)	(1.0)	(88.0)
South Dakota	17	17	17	(100.0)	(0)	(5.9)	(70.6)
Tennessee	131	128	128	(100.0)	(0)	(1.6)	(86.7)
Texas	1,334	1,311	1,304	(99.5)	(0.4)	(1.6)	(92.6)
Utah	37	37	37	(100.0)	(0)	(5.4)	(83.8)
Vermont	7	7	7	(100.0)	(0)	(14.3)	(71.4)
Virginia	212	208	208	(100.0)	(0.5)	(0)	(97.1)
Washington	208	198	194	(98.0)	(0)	(1.0)	(80.4)
West Virginia	10	8	8	(100.0)	(0)	(12.5)	(75.0)
Wisconsin	69	66	66	(100.0)	(0)	(7.6)	(84.8)
Wyoming	4	4	4	(100.0)	(0)	(0)	(100.0)
American Samoa[5]	4	4	4	(100.0)	(0)	(0)	(50.0)
Fed. States of Micronesia[5]	103	103	101	(98.1)	(0)	(1.0)	(96.0)
Guam[5]	76	74	73	(98.6)	(0)	(0)	(91.8)
Marshall Islands[5]	137	132	132	(100.0)	(0)	(0)	(94.7)
N. Mariana Islands[5]	27	27	27	(100.0)	(0)	(0)	(18.5)
Puerto Rico[5]	52	49	48	(98.0)	(0)	(0)	(100.0)
Republic of Palau[5]	14	14	14	(100.0)	(0)	(0)	(100.0)
U.S. Virgin Islands[5]	0	0	0	...	...	...	...

[1]Includes persons who were alive at diagnosis and started on one or more drug.
[2]Overall U.S. percentage based on 52 reporting areas (50 states, New York City, and the District of Columbia). Counts and percentages shown only for reporting areas with information reported for ≥75% of cases.
[3]I, isoniazid; R, rifampin; Z, pyrazinamide; E, ethambutol. Cases with other drugs prescribed in addition to these regimens are excluded.
[4]Excludes New York City.
[5]Not included in U.S. totals.
Note: Excluding cases with no information on drug regimen, 45 (0.48%) persons were not started on any drugs, 11 (0.12%) were started on one drug, and 1,146 (12.30%) had an initial multiple drug regimen other than IR, IRZ, or IRZE.
Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 50. Culture-Positive Tuberculosis Cases and Percentages with Drug-Susceptibility Results, by Resistance to Isoniazid or Multidrug Resistance: Reporting Areas, 2015

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	**7,410**	**7,209**	**(97.3)**	**666**	**(9.2)**	**89**	**(1.2)**
Alabama	91	82	(90.1)	1	(1.2)	0	(0)
Alaska	58	58	(100.0)	11	(19.0)	0	(0)
Arizona	147	147	(100.0)	16	(10.9)	2	(1.4)
Arkansas	64	64	(100.0)	1	(1.6)	0	(0)
California	1,765	1,736	(98.4)	186	(10.7)	23	(1.3)
Colorado	49	49	(100.0)	4	(8.2)	0	(0)
Connecticut	55	52	(94.5)	9	(17.3)	2	(3.8)
Delaware	15	13	(86.7)	0	(0)	0	(0)
District of Columbia	27	27	(100.0)	2	(7.4)	0	(0)
Florida	463	431	(93.1)	30	(7.0)	5	(1.2)
Georgia	235	226	(96.2)	29	(12.8)	0	(0)
Hawaii	96	94	(97.9)	4	(4.3)	0	(0)
Idaho	8	6	(75.0)	0	(0)	0	(0)
Illinois	260	246	(94.6)	21	(8.5)	2	(0.8)
Indiana	89	88	(98.9)	6	(6.8)	1	(1.1)
Iowa	23	23	(100.0)	1	(4.3)	0	(0)
Kansas	35	33	(94.3)	6	(18.2)	1	(3.0)
Kentucky	44	44	(100.0)	5	(11.4)	2	(4.5)
Louisiana	99	81	(81.8)	4	(4.9)	0	(0)
Maine	13	13	(100.0)	1	(7.7)	1	(7.7)
Maryland	134	131	(97.8)	12	(9.2)	1	(0.8)
Massachusetts	141	137	(97.2)	22	(16.1)	7	(5.1)
Michigan	92	92	(100.0)	5	(5.4)	0	(0)
Minnesota	115	115	(100.0)	9	(7.8)	0	(0)
Mississippi	44	41	(93.2)	2	(4.9)	0	(0)
Missouri	65	62	(95.4)	5	(8.1)	3	(4.8)
Montana	7	7	(100.0)	2	(28.6)	1	(14.3)
Nebraska	25	24	(96.0)	4	(16.7)	0	(0)
Nevada	65	65	(100.0)	12	(18.5)	0	(0)
New Hampshire	8	8	(100.0)	1	(12.5)	1	(12.5)
New Jersey	263	254	(96.6)	23	(9.1)	4	(1.6)
New Mexico	36	36	(100.0)	3	(8.3)	0	(0)
New York State[3]	150	150	(100.0)	17	(11.3)	1	(0.7)
New York City	446	432	(96.9)	44	(10.2)	5	(1.2)
North Carolina	171	169	(98.8)	8	(4.7)	1	(0.6)
North Dakota	8	8	(100.0)	0	(0)	0	(0)
Ohio	97	94	(96.9)	4	(4.3)	0	(0)
Oklahoma	48	46	(95.8)	2	(4.3)	0	(0)
Oregon	60	60	(100.0)	6	(10.0)	0	(0)
Pennsylvania	150	147	(98.0)	11	(7.5)	3	(2.0)
Rhode Island	18	18	(100.0)	0	(0)	0	(0)
South Carolina	79	78	(98.7)	5	(6.4)	1	(1.3)
South Dakota	13	13	(100.0)	2	(15.4)	1	(7.7)
Tennessee	89	85	(95.5)	9	(10.6)	2	(2.4)
Texas	1,003	984	(98.1)	83	(8.4)	9	(0.9)
Utah	25	25	(100.0)	4	(16.0)	1	(4.0)
Vermont	7	7	(100.0)	1	(14.3)	0	(0)
Virginia	171	168	(98.2)	9	(5.4)	1	(0.6)
Washington	173	170	(98.3)	14	(8.2)	4	(2.4)
West Virginia	8	8	(100.0)	1	(12.5)	0	(0)
Wisconsin	59	58	(98.3)	8	(13.8)	4	(6.9)
Wyoming	4	4	(100.0)	1	(25.0)	0	(0)
American Samoa[4]	3	0	(0)	—	—	—	—
Fed. States of Micronesia[4]	30	25	(83.3)	2	(8.0)	1	(4.0)
Guam[4]	39	35	(89.7)	4	(11.4)	1	(2.9)
Marshall Islands[4]	26	24	(92.3)	0	(0)	0	(0)
N. Mariana Islands[4]	14	13	(92.9)	1	(7.7)	0	(0)
Puerto Rico[4]	32	31	(96.9)	2	(6.5)	1	(3.2)
Republic of Palau[4]	5	5	(100.0)	0	(0)	0	(0)
U.S. Virgin Islands[4]	0	0	...	0	...	0	...

[1]Patients tested to at least isoniazid and rifampin.
[2]Isolates 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). Counts and percentages shown only for reporting areas with information reported for ≥75% of cases.
[3]Excludes New York City.
[4]Not 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 HIV Status: Reporting Areas, 2015

Reporting area	Total cases	Cases with information on HIV status[1]		Cases in persons with HIV-positive results[2]	
		No.	(%)	No.	(%)
United States	**9,349**	**8,366**	**(89.5)**	**459**	**(5.5)**
Alabama	117	114	(97.4)	2	(1.8)
Alaska	67	55	(82.1)	0	(0)
Arizona	193	181	(93.8)	11	(6.1)
Arkansas	87	87	(100.0)	3	(3.4)
California	2,091	1,861	(89.0)	60	(3.2)
Colorado	72	69	(95.8)	3	(4.3)
Connecticut	70	67	(95.7)	5	(7.5)
Delaware	21	18	(85.7)	1	(5.6)
District of Columbia	30	27	(90.0)	4	(14.8)
Florida	583	527	(90.4)	59	(11.2)
Georgia	316	296	(93.7)	27	(9.1)
Hawaii	126	122	(96.8)	1	(0.8)
Idaho	11	10	(90.9)	0	(0)
Illinois	336	301	(89.6)	13	(4.3)
Indiana	114	102	(89.5)	1	(1.0)
Iowa	38	34	(89.5)	0	(0)
Kansas	35	33	(94.3)	5	(15.2)
Kentucky	67	66	(98.5)	5	(7.6)
Louisiana	117	101	(86.3)	9	(8.9)
Maine	17	16	(94.1)	1	(6.3)
Maryland	174	162	(93.1)	16	(9.9)
Massachusetts	190	97	(51.1)	12	(12.4)
Michigan	130	118	(90.8)	3	(2.5)
Minnesota	148	136	(91.9)	9	(6.6)
Mississippi	72	70	(97.2)	2	(2.9)
Missouri	90	78	(86.7)	1	(1.3)
Montana	9	8	(88.9)	0	(0)
Nebraska	33	28	(84.8)	0	(0)
Nevada	82	79	(96.3)	4	(5.1)
New Hampshire	12	12	(100.0)	0	(0)
New Jersey	316	260	(82.3)	16	(6.2)
New Mexico	42	41	(97.6)	1	(2.4)
New York State[3]	186	155	(83.3)	5	(3.2)
New York City	566	480	(84.8)	34	(7.1)
North Carolina	193	189	(97.9)	16	(8.5)
North Dakota	9	9	(100.0)	2	(22.2)
Ohio	139	121	(87.1)	7	(5.8)
Oklahoma	64	59	(92.2)	0	(0)
Oregon	75	74	(98.7)	2	(2.7)
Pennsylvania	197	169	(85.8)	15	(8.9)
Rhode Island	29	26	(89.7)	1	(3.8)
South Carolina	100	93	(93.0)	6	(6.5)
South Dakota	17	13	(76.5)	1	(7.7)
Tennessee	128	126	(98.4)	7	(5.6)
Texas	1,311	1,192	(90.9)	76	(6.4)
Utah	37	37	(100.0)	1	(2.7)
Vermont	7	7	(100.0)	0	(0)
Virginia	208	204	(98.1)	7	(3.4)
Washington	199	178	(89.4)	5	(2.8)
West Virginia	8	6	(75.0)	0	(0)
Wisconsin	66	52	(78.8)	0	(0)
Wyoming	4	0	(0)	0	…
American Samoa[4]	4	4	(100.0)	0	(0)
Fed. States of Micronesia[4]	103	60	(58.3)	—	—
Guam[4]	74	70	(94.6)	0	(0)
Marshall Islands[4]	132	124	(93.9)	0	(0)
N. Mariana Islands[4]	27	24	(88.9)	0	(0)
Puerto Rico[4]	49	48	(98.0)	7	(14.6)
Republic of Palau[4]	14	13	(92.9)	0	(0)
U.S. Virgin Islands[4]	0	0	...	0	...

[1]Includes only those cases in persons with negative, positive, or indeterminate HIV test results and those persons not dead at diagnosis.
[2]Counts and percentages shown only for reporting areas with information reported for ≥75% of cases.
[3]Excludes New York City.
[4]Not 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.

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Table 52. Tuberculosis Diagnostic Tests, by Type of Laboratory: Reporting Areas, 2015

Reporting area	Nucleic acid amplification test					Sputum culture					Culture of tissue or other fluids				
	Total[1]	Commercial lab	Public health lab	Other lab	Missing	Total[2]	Commercial lab	Public health lab	Other lab	Missing	Total[3]	Commercial lab	Public health lab	Other lab	Missing
	No.	(%)	(%)	(%)	(%)	No.	(%)	(%)	(%)	(%)	No.	(%)	(%)	(%)	(%)
United States	**5,707**	**(30.2)**	**(53.2)**	**(12.9)**	**(3.7)**	**7,898**	**(28.0)**	**(52.2)**	**(14.9)**	**(5.0)**	**4,359**	**(46.5)**	**(23.9)**	**(24.8)**	**(4.8)**
Alabama	65	(7.7)	(89.2)	(1.5)	(1.5)	114	(7.9)	(90.4)	(0.9)	(0.9)	39	(30.8)	(59.0)	(10.3)	(0)
Alaska	39	(5.1)	(94.9)	(0)	(0)	64	(4.7)	(93.8)	(1.6)	(0)	12	(16.7)	(83.3)	(0)	(0)
Arizona	96	(24.0)	(50.0)	(25.0)	(1.0)	165	(17.0)	(73.3)	(9.7)	(0)	91	(25.3)	(29.7)	(45.1)	(0)
Arkansas	73	(4.1)	(89.0)	(6.8)	(0)	74	(6.8)	(89.2)	(2.7)	(1.4)	49	(32.7)	(26.5)	(40.8)	(0)
California	1,319	(38.6)	(49.7)	(10.5)	(1.3)	1,791	(43.9)	(40.7)	(13.8)	(1.6)	929	(56.1)	(22.5)	(19.6)	(1.8)
Colorado	30	(20.0)	(30.0)	(36.7)	(13.3)	57	(7.0)	(35.1)	(14.0)	(43.9)	41	(17.1)	(14.6)	(39.0)	(29.3)
Connecticut	20	(50.0)	(50.0)	(0)	(0)	52	(38.5)	(59.6)	(1.9)	(0)	43	(46.5)	(53.5)	(0)	(0)
Delaware	10	(20.0)	(60.0)	(20.0)	(0)	6	(33.3)	(50.0)	(0)	(16.7)	11	(18.2)	(18.2)	(45.5)	(18.2)
District of Columbia	18	(61.1)	(0)	(33.3)	(5.6)	28	(42.9)	(0)	(57.1)	(0)	22	(45.5)	(0)	(54.5)	(0)
Florida	487	(14.6)	(80.1)	(5.3)	(0)	528	(16.3)	(81.1)	(2.7)	(0)	266	(42.9)	(49.2)	(7.9)	(0)
Georgia	196	(44.9)	(44.4)	(5.6)	(5.1)	263	(24.0)	(57.4)	(18.6)	(0)	155	(72.3)	(18.1)	(0)	(9.7)
Hawaii	104	(98.1)	(0)	(1.0)	(1.0)	114	(95.6)	(0)	(3.5)	(0.9)	34	(88.2)	(0)	(8.8)	(2.9)
Idaho	10	(10.0)	(70.0)	(10.0)	(10.0)	9	(0)	(88.9)	(0)	(11.1)	4	(0)	(75.0)	(25.0)	(0)
Illinois	136	(45.6)	(37.5)	(16.9)	(0)	251	(32.7)	(39.0)	(27.1)	(1.2)	186	(63.4)	(9.1)	(27.4)	(0)
Indiana	74	(35.1)	(51.4)	(13.5)	(0)	82	(8.5)	(78.0)	(13.4)	(0)	45	(42.2)	(26.7)	(31.1)	(0)
Iowa	23	(21.7)	(78.3)	(0)	(0)	29	(10.3)	(89.7)	(0)	(0)	16	(18.8)	(81.3)	(0)	(0)
Kansas	16	(31.3)	(68.8)	(0)	(0)	34	(32.4)	(67.6)	(0)	(0)	22	(72.7)	(27.3)	(0)	(0)
Kentucky	51	(21.6)	(68.6)	(9.8)	(0)	64	(28.1)	(64.1)	(7.8)	(0)	27	(48.1)	(40.7)	(11.1)	(0)
Louisiana	68	(36.8)	(58.8)	(1.5)	(2.9)	92	(46.7)	(38.0)	(12.0)	(3.3)	32	(81.3)	(9.4)	(6.3)	(3.1)
Maine	6	(0)	(100.0)	(0)	(0)	9	(11.1)	(88.9)	(0)	(0)	10	(0)	(100.0)	(0)	(0)
Maryland	124	(34.7)	(62.1)	(3.2)	(0)	165	(17.0)	(81.2)	(1.8)	(0)	87	(49.4)	(41.4)	(8.0)	(1.1)
Massachusetts	106	(9.4)	(39.6)	(0)	(50.9)	126	(29.4)	(39.7)	(0)	(31.0)	114	(48.2)	(35.1)	(0)	(16.7)
Michigan	81	(18.5)	(54.3)	(23.5)	(3.7)	97	(0)	(100.0)	(0)	(0)	62	(16.1)	(50.0)	(33.9)	(0)
Minnesota	71	(77.5)	(22.5)	(0)	(0)	97	(56.7)	(43.3)	(0)	(0)	80	(48.8)	(51.3)	(0)	(0)
Mississippi	55	(3.6)	(0)	(50.9)	(45.5)	68	(5.9)	(0)	(47.1)	(47.1)	39	(2.6)	(0)	(48.7)	(48.7)
Missouri	40	(47.5)	(40.0)	(0)	(12.5)	76	(17.1)	(78.9)	(0)	(3.9)	50	(48.0)	(46.0)	(0)	(6.0)
Montana	8	(0)	(87.5)	(0)	(12.5)	7	(14.3)	(85.7)	(0)	(0)	3	(0)	(100.0)	(0)	(0)
Nebraska	15	(13.3)	(53.3)	(6.7)	(26.7)	21	(4.8)	(47.6)	(14.3)	(33.3)	16	(25.0)	(50.0)	(12.5)	(12.5)
Nevada	42	(33.3)	(64.3)	(2.4)	(0)	78	(35.9)	(64.1)	(0)	(0)	28	(71.4)	(28.6)	(0)	(0)
New Hampshire	10	(20.0)	(60.0)	(10.0)	(10.0)	10	(20.0)	(80.0)	(0)	(0)	3	(33.3)	(66.7)	(0)	(0)
New Jersey	125	(63.2)	(8.8)	(25.6)	(2.4)	243	(44.9)	(27.6)	(27.6)	(0)	177	(42.9)	(4.5)	(51.4)	(1.1)
New Mexico	29	(58.6)	(41.4)	(0)	(0)	38	(52.6)	(47.4)	(0)	(0)	16	(81.3)	(18.8)	(0)	(0)

Table 52. (Con't) Tuberculosis Diagnostic Tests, by Type of Laboratory: Reporting Areas, 2015

Reporting area	Nucleic acid amplification test					Sputum culture					Culture of tissue or other fluids				
	Total[1]	Commercial lab	Public health lab	Other lab	Missing	Total[2]	Commercial lab	Public health lab	Other lab	Missing	Total[3]	Commercial lab	Public health lab	Other lab	Missing
	No.	(%)	(%)	(%)	(%)	No.	(%)	(%)	(%)	(%)	No.	(%)	(%)	(%)	(%)
New York State[4]	115	(14.8)	(34.8)	(20.9)	(29.6)	161	(20.5)	(24.2)	(26.7)	(28.6)	101	(22.8)	(30.7)	(26.7)	(19.8)
New York City	444	(7.7)	(61.0)	(24.8)	(6.5)	505	(8.7)	(10.1)	(45.9)	(35.2)	271	(5.2)	(3.7)	(59.0)	(32.1)
North Carolina	106	(41.5)	(58.5)	(0)	(0)	173	(13.9)	(73.4)	(12.7)	(0)	104	(63.5)	(8.7)	(27.9)	(0)
North Dakota	4	(100.0)	(0)	(0)	(0)	8	(50.0)	(50.0)	(0)	(0)	4	(75.0)	(25.0)	(0)	(0)
Ohio	77	(85.7)	(14.3)	(0)	(0)	110	(89.1)	(10.9)	(0)	(0)	90	(95.6)	(4.4)	(0)	(0)
Oklahoma	41	(22.0)	(75.6)	(2.4)	(0)	49	(6.1)	(91.8)	(2.0)	(0)	21	(33.3)	(66.7)	(0)	(0)
Oregon	57	(7.0)	(38.6)	(50.9)	(3.5)	69	(5.8)	(63.8)	(24.6)	(5.8)	28	(7.1)	(14.3)	(78.6)	(0)
Pennsylvania	87	(13.8)	(67.8)	(10.3)	(8.0)	146	(26.7)	(62.3)	(6.8)	(4.1)	107	(44.9)	(25.2)	(26.2)	(3.7)
Rhode Island	14	(28.6)	(71.4)	(0)	(0)	24	(29.2)	(70.8)	(0)	(0)	22	(54.5)	(45.5)	(0)	(0)
South Carolina	66	(16.7)	(78.8)	(4.5)	(0)	84	(14.3)	(77.4)	(8.3)	(0)	45	(51.1)	(17.8)	(31.1)	(0)
South Dakota	13	(0)	(100.0)	(0)	(0)	15	(6.7)	(93.3)	(0)	(0)	8	(0)	(100.0)	(0)	(0)
Tennessee	59	(44.1)	(45.8)	(10.2)	(0)	117	(27.4)	(70.1)	(1.7)	(0.9)	65	(70.8)	(15.4)	(13.8)	(0)
Texas	783	(21.5)	(55.7)	(22.5)	(0.4)	1136	(16.8)	(59.8)	(23.3)	(0.1)	508	(34.8)	(16.9)	(48.0)	(0.2)
Utah	16	(75.0)	(25.0)	(0)	(0)	24	(58.3)	(41.7)	(0)	(0)	14	(100.0)	(0)	(0)	(0)
Vermont	4	(25.0)	(50.0)	(25.0)	(0)	6	(66.7)	(16.7)	(16.7)	(0)	2	(100.0)	(0)	(0)	(0)
Virginia	81	(19.8)	(51.9)	(28.4)	(0)	192	(7.8)	(85.4)	(6.8)	(0)	109	(33.9)	(34.9)	(29.4)	(1.8)
Washington	148	(44.6)	(53.4)	(0)	(2.0)	167	(50.3)	(42.5)	(0)	(7.2)	110	(91.8)	(6.4)	(0.9)	(0.9)
West Virginia	2	(0)	(100.0)	(0)	(0)	7	(14.3)	(85.7)	(0)	(0)	1	(0)	(100.0)	(0)	(0)
Wisconsin	39	(7.7)	(89.7)	(2.6)	(0)	51	(21.6)	(76.5)	(0)	(2.0)	37	(45.9)	(54.1)	(0)	(0)
Wyoming	4	(25.0)	(75.0)	(0)	(0)	2	(0)	(100.0)	(0)	(0)	3	(33.3)	(66.7)	(0)	(0)
American Samoa[5]	0	...	...	...	...	3	(0)	(0)	(100.0)	(0)	0	...	...	...	...
Fed. States of Micronesia[5]	36	(83.3)	(0)	(16.7)	(0)	59	(100.0)	(0)	(0)	(0)	3	(100.0)	(0)	(0)	(0)
Guam[5]	64	(12.5)	(87.5)	(0)	(0)	59	(91.5)	(8.5)	(0)	(0)	3	(100.0)	(0)	(0)	(0)
Marshall Islands[5]	56	(16.1)	(78.6)	(1.8)	(3.6)	53	(98.1)	(1.9)	(0)	(0)	0	...	...	...	...
N. Mariana Islands[5]	18	(0)	(100.0)	(0)	(0)	18	(88.9)	(0)	(0)	(11.1)	0	...	...	...	...
Puerto Rico[5]	21	(0)	(100.0)	(0)	(0)	49	(8.2)	(91.8)	(0)	(0)	10	(30.0)	(70.0)	(0)	(0)
Republic of Palau[5]	12	(0)	(83.3)	(0)	(16.7)	10	(100.0)	(0)	(0)	(0)	1	(100.0)	(0)	(0)	(0)
U.S. Virgin Islands[5]	0	...	...	...	...	0	...	...	...	...	0	...	...	...	...

[1]Nunber of patients with positive or negative NAA test results.
[2]Number of patients with positive or negative sputum culture test results.
[3]Number of patients with positive or negative culture of tissue and other body fluid test results.
[4]Excludes New York City.
[5]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 53. Tuberculosis Genotyping Surveillance Coverage[1]: Reporting Areas, 2015

Reporting area	Total cases	Culture positive cases	Genotyped cases	Genotype surveillance coverage[2]
		No.	No.	(%)
United States	**9,557**	**7,410**	**7,123**	**(96.1)**
Alabama	119	91	90	(98.9)
Alaska	68	58	57	(98.3)
Arizona	198	147	146	(99.3)
Arkansas	90	64	62	(96.9)
California	2,133	1,765	1,675	(94.9)
Colorado	73	49	49	(100.0)
Connecticut	70	55	55	(100.0)
District of Columbia	33	27	26	(96.3)
Delaware	22	15	14	(93.3)
Florida	602	463	460	(99.4)
Georgia	324	235	229	(97.4)
Hawaii	127	96	93	(96.9)
Idaho	11	8	8	(100.0)
Illinois	343	260	231	(88.8)
Indiana	116	89	89	(100.0)
Iowa	38	23	20	(87.0)
Kansas	36	35	34	(97.1)
Kentucky	67	44	42	(95.5)
Louisiana	119	99	69	(69.7)
Maine	18	13	13	(100.0)
Maryland	176	134	127	(94.8)
Massachusetts	192	141	135	(95.7)
Michigan	131	92	92	(100.0)
Minnesota	150	115	115	(100.0)
Mississippi	74	44	44	(100.0)
Missouri	92	65	63	(96.9)
Montana	9	7	6	(85.7)
Nebraska	33	25	20	(80.0)
Nevada	85	65	62	(95.4)
New Hampshire	13	8	7	(87.5)
New Jersey	326	263	250	(95.1)
New Mexico	47	36	35	(97.2)
New York[3]	765	596	580	(97.3)
North Carolina	199	171	171	(100.0)
North Dakota	9	8	8	(100.0)
Ohio	143	97	96	(99.0)
Oklahoma	67	48	45	(93.8)
Oregon	76	60	60	(100.0)
Pennsylvania	200	150	146	(97.3)
Rhode Island	30	18	18	(100.0)
South Carolina	104	79	79	(100.0)
South Dakota	17	13	13	(100.0)
Tennessee	131	89	84	(94.4)
Texas	1,334	1003	963	(96.0)
Utah	37	25	24	(96.0)
Vermont	7	7	7	(100.0)
Virginia	212	171	169	(98.8)
Washington	208	173	171	(98.8)
West Virginia	10	8	8	(100.0)
Wisconsin	69	59	59	(100.0)
Wyoming	4	4	4	(100.0)
American Samoa[4]	4	3	2	(66.7)
Fed State of Micronesia[4]	103	30	25	(83.3)
Guam[4]	76	39	36	(92.3)
Marshall Islands[4]	137	26	19	(73.1)
N. Mariana Islands[4]	27	14	8	(57.1)
Puerto Rico[4]	52	32	32	(100.0)
Republic of Palau[4]	14	5	5	(100.0)
U.S. Virgin Islands[4]	0	0	0	...

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

Table 54. County-Based Tuberculosis Genotype Clusters[1] Based on GENType: Reporting Areas, 2013–2015

Reporting area	Genotyped cases	Genotype surveillance coverage[2]	Clusters	Clustered cases	Cluster size	
	No.	(%)	No.	No.	Median	(Range)
United States	**21,153**	**(96.1)**	**1,464**	**4,529**	**2**	**(2-60)**
Alabama	271	(97.1)	28	85	2	(2-9)
Alaska	160	(95.8)	15	107	5	(2-22)
Arizona	449	(99.1)	38	85	2	(2-4)
Arkansas	169	(96.6)	13	45	2	(2-15)
California	5,032	(95.8)	393	1,277	2	(2-52)
Colorado	140	(100.0)	1	2	2	(2-2)
Connecticut	153	(100.0)	6	15	3	(2-3)
District of Columbia	73	(91.3)	4	11	3	(2-4)
Delaware	34	(85.0)	2	4	2	(2-2)
Florida	1,446	(99.4)	109	332	2	(2-42)
Georgia	696	(97.2)	48	175	2	(2-39)
Hawaii	279	(97.9)	18	67	3	(2-10)
Idaho	23	(100.0)	--	--	--	--
Illinois	617	(81.6)	34	99	2	(2-8)
Indiana	245	(99.2)	11	33	2	(2-10)
Iowa	92	(93.9)	5	10	2	(2-2)
Kansas	96	(97.0)	4	8	2	(2-2)
Kentucky	149	(98.7)	11	29	2	(2-4)
Louisiana	233	(74.9)	29	78	2	(2-6)
Maine	31	(96.9)	3	6	2	(2-2)
Maryland	398	(96.8)	22	52	2	(2-5)
Massachusetts	421	(95.0)	18	43	2	(2-8)
Michigan	265	(99.3)	10	29	2	(2-9)
Minnesota	337	(100.0)	13	35	2	(2-4)
Mississippi	147	(98.0)	11	28	2	(2-6)
Missouri	186	(94.9)	14	35	2	(2-4)
Montana	17	(89.5)	--	--	--	--
Nebraska	63	(88.7)	2	4	2	(2-2)
Nevada	166	(96.0)	9	22	2	(2-4)
New Hampshire	30	(96.8)	--	--	--	--
New Jersey	748	(97.9)	40	101	2	(2-5)
New Mexico	111	(98.2)	3	6	2	(2-2)
New York	1,768	(96.3)	120	306	2	(2-13)
North Carolina	488	(100.0)	33	113	2	(2-20)
North Dakota	24	(100.0)	1	3	3	(3-3)
Ohio	329	(98.8)	12	45	2	(2-12)
Oklahoma	129	(93.5)	10	25	2	(2-5)
Oregon	178	(100.0)	10	30	3	(2-5)
Pennsylvania	460	(95.8)	23	59	2	(2-8)
Rhode Island	46	(100.0)	2	4	2	(2-2)
South Carolina	211	(99.1)	19	55	2	(2-8)
South Dakota	26	(100.0)	2	5	3	(2-3)
Tennessee	282	(96.2)	20	74	2	(2-21)
Texas	2742	(96.4)	242	845	2	(2-60)
Utah	67	(98.5)	--	--	--	--
Vermont	12	(100.0)	--	--	--	--
Virginia	449	(97.4)	19	40	2	(2-4)
Washington	490	(98.0)	30	80	2	(2-8)
West Virginia	30	(93.8)	1	2	2	(2-2)
Wisconsin	139	(97.9)	6	20	3	(2-8)
Wyoming	6	(100.0)	--	--	--	--

[1]Clusters are 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 (Total number of clusters from 2013–2015 = 1,464).
[2]Genotype surveillance coverage is defined as the percentage of all culture positive tuberculosis (TB) cases for which there was a genotyped isolate.
Note: Dashes (--) indicate no clustered cases.
See Technical Notes.

Morbidity Tables
Reporting Areas, 2013

Table 55. Tuberculosis Cases and Percentages, by Type of Health Care Provider: Reporting Areas, 2013[1]

Reporting area	Total cases	Cases in persons alive at diagnosis	Cases with information on type of health care provider		Percentage of cases by type of health care provider[2]		
			No.	(%)	Health department	Private/other	Both health department and private/other
United States	**9,550**	**9,334**	**8,770**	**(94.0)**	**(65.7)**	**(22.3)**	**(12.0)**
Alabama	108	103	86	(83.5)	(64.0)	(16.3)	(19.8)
Alaska	71	71	71	(100.0)	(12.7)	(7.0)	(80.3)
Arizona	184	179	178	(99.4)	(57.9)	(25.3)	(16.9)
Arkansas	72	71	70	(98.6)	(88.6)	(5.7)	(5.7)
California	2,164	2,118	2,089	(98.6)	(54.2)	(35.4)	(10.4)
Colorado	74	73	72	(98.6)	(87.5)	(12.5)	(0)
Connecticut	62	59	59	(100.0)	(23.7)	(22.0)	(54.2)
Delaware	18	18	9	(50.0)	—	—	—
District of Columbia	37	37	37	(100.0)	(70.3)	(21.6)	(8.1)
Florida	651	632	612	(96.8)	(63.4)	(25.7)	(10.9)
Georgia	339	327	310	(94.8)	(84.5)	(3.5)	(11.9)
Hawaii	115	114	114	(100.0)	(65.8)	(10.5)	(23.7)
Idaho	11	11	10	(90.9)	(20.0)	(60.0)	(20.0)
Illinois	327	321	316	(98.4)	(42.4)	(21.5)	(36.1)
Indiana	94	90	90	(100.0)	(60.0)	(12.2)	(27.8)
Iowa	47	47	47	(100.0)	(0)	(100.0)	(0)
Kansas	36	36	35	(97.2)	(88.6)	(8.6)	(2.9)
Kentucky	59	58	58	(100.0)	(87.9)	(12.1)	(0)
Louisiana	139	135	124	(91.9)	(77.4)	(10.5)	(12.1)
Maine	15	14	14	(100.0)	(7.1)	(21.4)	(71.4)
Maryland	175	174	172	(98.9)	(91.9)	(3.5)	(4.7)
Massachusetts	201	198	177	(89.4)	(72.3)	(23.7)	(4.0)
Michigan	141	139	133	(95.7)	(75.9)	(24.1)	(0)
Minnesota	151	150	150	(100.0)	(54.7)	(38.0)	(7.3)
Mississippi	65	60	60	(100.0)	(96.7)	(3.3)	(0)
Missouri	104	102	53	(52.0)	—	—	—
Montana	6	6	5	(83.3)	(0)	(60.0)	(40.0)
Nebraska	21	21	18	(85.7)	(27.8)	(50.0)	(22.2)
Nevada	91	88	88	(100.0)	(88.6)	(8.0)	(3.4)
New Hampshire	15	15	15	(100.0)	(20.0)	(73.3)	(6.7)
New Jersey	319	314	314	(100.0)	(76.4)	(13.1)	(10.5)
New Mexico	50	46	38	(82.6)	(71.1)	(23.7)	(5.3)
New York State[3]	215	215	211	(98.1)	(64.9)	(23.7)	(11.4)
New York City	650	644	366	(56.8)	—	—	—
North Carolina	216	206	206	(100.0)	(80.1)	(3.9)	(16.0)
North Dakota	12	9	9	(100.0)	(0)	(100.0)	(0)
Ohio	148	145	142	(97.9)	(83.8)	(16.2)	(0)
Oklahoma	70	68	68	(100.0)	(73.5)	(2.9)	(23.5)
Oregon	73	73	71	(97.3)	(47.9)	(38.0)	(14.1)
Pennsylvania	214	212	210	(99.1)	(73.3)	(19.5)	(7.1)
Rhode Island	27	26	26	(100.0)	(96.2)	(3.8)	(0)
South Carolina	112	107	107	(100.0)	(84.1)	(8.4)	(7.5)
South Dakota	9	9	9	(100.0)	(33.3)	(66.7)	(0)
Tennessee	143	141	100	(70.9)	—	—	—
Texas	1,209	1,173	1,172	(99.9)	(78.9)	(15.6)	(5.5)
Utah	33	33	33	(100.0)	(97.0)	(3.0)	(0)
Vermont	5	5	5	(100.0)	(0)	(0)	(100.0)
Virginia	179	172	166	(96.5)	(80.1)	(7.8)	(12.0)
Washington	210	206	195	(94.7)	(62.1)	(15.4)	(22.6)
West Virginia	13	13	0	(0)	—	—	—
Wisconsin	50	50	50	(100.0)	(0)	(2.0)	(98.0)
Wyoming	0	0	0	...	...	...	...
American Samoa[4]	2	2	0	(0)	—	—	—
Fed. States of Micronesia[4]	128	125	122	(97.6)	(99.2)	(0.8)	(0)
Guam[4]	48	47	47	(100.0)	(97.9)	(2.1)	(0)
Marshall Islands[4]	153	153	152	(99.3)	(100.0)	(0)	(0)
N. Mariana Islands[4]	31	31	26	(83.9)	(100.0)	(0)	(0)
Puerto Rico[4]	49	46	46	(100.0)	(67.4)	(28.3)	(4.3)
Republic of Palau[4]	7	7	7	(100.0)	(85.7)	(14.3)	(0)
U.S. Virgin Islands[4]	2	2	1	(50.0)	—	—	—

[1]Most recent year for which data are available.

[2]Health department: all outpatient care provided by the state or local health department; private/other: all care (except contact investigation and dispensing of medication) provided by non-health department providers; both health department and private/other: both sectors involved in the care of the patient. Percentage for U.S. based on 52 reporting areas (50 states, New York City, and the District of Columbia). Percentages shown only for reporting areas with information reported for ≥75% of cases.

[3]Excludes New York City.

[4]Not included in U.S. totals.

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

Table 56. Tuberculosis Cases and Percentages, by Directly Observed Therapy (DOT): Reporting Areas, 2013[1]

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-sdministered
United States	**9,550**	**9,266**	**9,065**	**(97.8)**	**(63.2)**	**(28.9)**
Alabama	108	103	102	(99.0)	(46.1)	(52.9)
Alaska	71	71	71	(100.0)	(95.8)	(2.8)
Arizona	184	176	176	(100.0)	(85.2)	(14.8)
Arkansas	72	70	70	(100.0)	(38.6)	(34.3)
California	2,164	2,105	2,076	(98.6)	(53.0)	(36.7)
Colorado	74	72	72	(100.0)	(81.9)	(11.1)
Connecticut	62	59	59	(100.0)	(10.2)	(69.5)
Delaware	18	18	9	(50.0)	—	—
District of Columbia	37	35	35	(100.0)	(85.7)	(0)
Florida	651	631	619	(98.1)	(20.4)	(77.2)
Georgia	339	327	310	(94.8)	(86.8)	(10.3)
Hawaii	115	113	113	(100.0)	(90.3)	(2.7)
Idaho	11	11	11	(100.0)	(45.5)	(36.4)
Illinois	327	316	306	(96.8)	(51.6)	(33.0)
Indiana	94	90	90	(100.0)	(85.6)	(12.2)
Iowa	47	47	47	(100.0)	(61.7)	(27.7)
Kansas	36	36	35	(97.2)	(100.0)	(0)
Kentucky	59	58	58	(100.0)	(96.6)	(1.7)
Louisiana	139	135	124	(91.9)	(66.9)	(16.9)
Maine	15	14	14	(100.0)	(57.1)	(21.4)
Maryland	175	174	174	(100.0)	(79.9)	(19.0)
Massachusetts	201	189	185	(97.9)	(45.4)	(40.5)
Michigan	141	136	121	(89.0)	(62.0)	(38.0)
Minnesota	151	150	150	(100.0)	(79.3)	(20.0)
Mississippi	65	60	60	(100.0)	(75.0)	(25.0)
Missouri	104	102	96	(94.1)	(34.4)	(62.5)
Montana	6	6	5	(83.3)	(80.0)	(20.0)
Nebraska	21	21	21	(100.0)	(9.5)	(85.7)
Nevada	91	88	86	(97.7)	(91.9)	(8.1)
New Hampshire	15	15	15	(100.0)	(46.7)	(40.0)
New Jersey	319	314	312	(99.4)	(59.0)	(24.7)
New Mexico	50	45	45	(100.0)	(95.6)	(2.2)
New York State[4]	215	214	213	(99.5)	(34.3)	(60.6)
New York City	650	640	576	(90.0)	(60.6)	(10.8)
North Carolina	216	205	205	(100.0)	(99.0)	(1.0)
North Dakota	12	9	9	(100.0)	(77.8)	(22.2)
Ohio	148	145	145	(100.0)	(66.2)	(25.5)
Oklahoma	70	67	66	(98.5)	(9.1)	(90.9)
Oregon	73	72	72	(100.0)	(88.9)	(8.3)
Pennsylvania	214	209	209	(100.0)	(73.2)	(17.7)
Rhode Island	27	26	26	(100.0)	(19.2)	(73.1)
South Carolina	112	106	106	(100.0)	(76.4)	(19.8)
South Dakota	9	9	9	(100.0)	(44.4)	(55.6)
Tennessee	143	141	140	(99.3)	(99.3)	(0.7)
Texas	1,209	1,160	1,159	(99.9)	(79.6)	(18.7)
Utah	33	32	32	(100.0)	(93.8)	(3.1)
Vermont	5	5	5	(100.0)	(40.0)	(20.0)
Virginia	179	172	167	(97.1)	(88.6)	(7.8)
Washington	210	204	198	(97.1)	(68.7)	(20.2)
West Virginia	13	13	12	(92.3)	(100.0)	(0)
Wisconsin	50	50	49	(98.0)	(89.8)	(8.2)
Wyoming	0	0	0	…	—	—
American Samoa[5]	2	2	2	(100.0)	(0)	(100.0)
Fed. States of Micronesia[5]	128	125	125	(100.0)	(98.4)	(1.6)
Guam[5]	48	47	46	(97.9)	(100.0)	(0)
Marshall Islands[5]	153	153	152	(99.3)	(88.2)	(11.8)
N. Mariana Islands[5]	31	0	0	(0)	—	—
Puerto Rico[5]	49	46	46	(100.0)	(63.0)	(4.3)
Republic of Palau[5]	7	7	7	(100.0)	(42.9)	(57.1)
U.S. Virgin Islands[5]	2	2	1	(50.0)	—	—

[1]Most recent year for which data are available.
[2]Includes persons alive at diagnosis with an initial drug regimen of one or more drugs prescribed.
[3]Percentage for U.S. based on 52 reporting areas (50 states, New York City, and the District of Columbia). Percentages shown only for reporting areas with information reported for ≥75% of cases.
[4]Excludes New York City.
[5]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

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Table 57. Tuberculosis Cases and Percentages, by Reason Therapy Was Stopped: Reporting Areas, 2013[1]

Reporting area	Cases with initial drug regimen prescribed[2]	Completed therapy		Did not complete therapy									
				Adverse event		Lost		Refused		Died[3]		Unknown[4]	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**9,266**	**8,127**	**(87.7)**	**40**	**(0.4)**	**97**	**(1.0)**	**66**	**(0.7)**	**579**	**(6.2)**	**357**	**(3.9)**
Alabama	103	94	(91.3)	1	(1.0)	0	(0)	0	(0)	8	(7.8)	0	(0)
Alaska	71	68	(95.8)	0	(0)	0	(0)	1	(1.4)	2	(2.8)	0	(0)
Arizona	176	147	(83.5)	0	(0)	2	(1.1)	2	(1.1)	10	(5.7)	15	(8.5)
Arkansas	70	54	(77.1)	1	(1.4)	2	(2.9)	3	(4.3)	4	(5.7)	6	(8.6)
California	2,105	1,803	(85.7)	13	(0.6)	15	(0.7)	13	(0.6)	164	(7.8)	97	(4.6)
Colorado	72	63	(87.5)	0	(0)	0	(0)	1	(1.4)	8	(11.1)	0	(0)
Connecticut	59	51	(86.4)	1	(1.7)	2	(3.4)	0	(0)	3	(5.1)	2	(3.4)
Delaware	18	8	(44.4)	0	(0)	0	(0)	1	(5.6)	0	(0)	9	(50.0)
District of Columbia	35	32	(91.4)	0	(0)	0	(0)	0	(0)	1	(2.9)	2	(5.7)
Florida	631	572	(90.6)	0	(0)	3	(0.5)	0	(0)	27	(4.3)	29	(4.6)
Georgia	327	295	(90.2)	1	(0.3)	3	(0.9)	0	(0)	12	(3.7)	16	(4.9)
Hawaii	113	109	(96.5)	0	(0)	0	(0)	0	(0)	4	(3.5)	0	(0)
Idaho	11	10	(90.9)	0	(0)	0	(0)	0	(0)	1	(9.1)	0	(0)
Illinois	316	278	(88.0)	1	(0.3)	3	(0.9)	4	(1.3)	25	(7.9)	5	(1.6)
Indiana	90	83	(92.2)	0	(0)	0	(0)	1	(1.1)	4	(4.4)	2	(2.2)
Iowa	47	44	(93.6)	0	(0)	0	(0)	1	(2.1)	1	(2.1)	1	(2.1)
Kansas	36	31	(86.1)	0	(0)	0	(0)	0	(0)	4	(11.1)	1	(2.8)
Kentucky	58	49	(84.5)	0	(0)	0	(0)	1	(1.7)	6	(10.3)	2	(3.4)
Louisiana	135	112	(83.0)	0	(0)	4	(3.0)	4	(3.0)	4	(3.0)	11	(8.1)
Maine	14	13	(92.9)	0	(0)	0	(0)	0	(0)	1	(7.1)	0	(0)
Maryland	174	161	(92.5)	0	(0)	0	(0)	0	(0)	7	(4.0)	6	(3.4)
Massachusetts	189	161	(85.2)	1	(0.5)	1	(0.5)	0	(0)	6	(3.2)	20	(10.6)
Michigan	136	124	(91.2)	0	(0)	0	(0)	2	(1.5)	8	(5.9)	2	(1.5)
Minnesota	150	141	(94.0)	0	(0)	1	(0.7)	1	(0.7)	5	(3.3)	2	(1.3)
Mississippi	60	45	(75.0)	0	(0)	1	(1.7)	0	(0)	11	(18.3)	3	(5.0)
Missouri	102	75	(73.5)	2	(2.0)	0	(0)	2	(2.0)	9	(8.8)	14	(13.7)
Montana	6	3	(50.0)	0	(0)	0	(0)	0	(0)	2	(33.3)	1	(16.7)
Nebraska	21	19	(90.5)	0	(0)	0	(0)	0	(0)	1	(4.8)	1	(4.8)
Nevada	88	84	(95.5)	0	(0)	0	(0)	0	(0)	4	(4.5)	0	(0)
New Hampshire	15	12	(80.0)	0	(0)	0	(0)	0	(0)	1	(6.7)	2	(13.3)
New Jersey	314	275	(87.6)	1	(0.3)	6	(1.9)	3	(1.0)	20	(6.4)	9	(2.9)
New Mexico	45	36	(80.0)	0	(0)	3	(6.7)	1	(2.2)	3	(6.7)	2	(4.4)

Table 57. (Con't) Tuberculosis Cases and Percentages, by Reason Therapy Was Stopped: Reporting Areas, 2013[1]

Reporting area	Cases with initial drug regimen prescribed[2]	Completed therapy		Did not complete therapy									
				Adverse event		Lost		Refused		Died[3]		Unknown[4]	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
New York State[5]	214	194	(90.7)	0	(0)	1	(0.5)	3	(1.4)	10	(4.7)	6	(2.8)
New York City	640	589	(92.0)	4	(0.6)	7	(1.1)	4	(0.6)	29	(4.5)	7	(1.1)
North Carolina	205	195	(95.1)	0	(0)	2	(1.0)	0	(0)	7	(3.4)	1	(0.5)
North Dakota	9	9	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Ohio	145	124	(85.5)	1	(0.7)	1	(0.7)	2	(1.4)	12	(8.3)	5	(3.4)
Oklahoma	67	61	(91.0)	0	(0)	1	(1.5)	0	(0)	4	(6.0)	1	(1.5)
Oregon	72	64	(88.9)	1	(1.4)	0	(0)	2	(2.8)	5	(6.9)	0	(0)
Pennsylvania	209	177	(84.7)	0	(0)	2	(1.0)	1	(0.5)	17	(8.1)	12	(5.7)
Rhode Island	26	24	(92.3)	1	(3.8)	0	(0)	0	(0)	1	(3.8)	0	(0)
South Carolina	106	93	(87.7)	3	(2.8)	3	(2.8)	1	(0.9)	5	(4.7)	1	(0.9)
South Dakota	9	6	(66.7)	0	(0)	0	(0)	0	(0)	2	(22.2)	1	(11.1)
Tennessee	141	123	(87.2)	0	(0)	0	(0)	0	(0)	16	(11.3)	2	(1.4)
Texas	1,160	992	(85.5)	4	(0.3)	29	(2.5)	11	(0.9)	84	(7.2)	40	(3.4)
Utah	32	31	(96.9)	0	(0)	0	(0)	0	(0)	1	(3.1)	0	(0)
Vermont	5	4	(80.0)	1	(20.0)	0	(0)	0	(0)	0	(0)	0	(0)
Virginia	172	157	(91.3)	0	(0)	1	(0.6)	1	(0.6)	8	(4.7)	5	(2.9)
Washington	204	176	(86.3)	3	(1.5)	3	(1.5)	0	(0)	10	(4.9)	12	(5.9)
West Virginia	13	9	(69.2)	0	(0)	0	(0)	0	(0)	2	(15.4)	2	(15.4)
Wisconsin	50	47	(94.0)	0	(0)	1	(2.0)	0	(0)	0	(0)	2	(4.0)
Wyoming	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]	125	114	(91.2)	0	(0)	0	(0)	3	(2.4)	4	(3.2)	4	(3.2)
Guam[6]	47	45	(95.7)	0	(0)	0	(0)	0	(0)	2	(4.3)	0	(0)
Marshall Islands[6]	153	131	(85.6)	0	(0)	8	(5.2)	0	(0)	11	(7.2)	3	(2.0)
N. Mariana Islands[6]	0	0	...	0	...	0	...	0	...	0	...	0	...
Puerto Rico[6]	46	37	(80.4)	0	(0)	1	(2.2)	0	(0)	8	(17.4)	0	(0)
Republic of Palau[6]	7	7	(100.0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
U.S. Virgin Islands[6]	2	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(100.0)

[1]Most recent year for which data are available.
[2]Number 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).
[3]Died = died of any cause.
[4]Includes cases reported as other, missing, and unknown.
[5]Excludes New York City.
[6]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 58. Reason Therapy Was Extended Beyond 12 Months: Reporting Areas, 2013[1]

Reporting area	Total cases with therapy extended[2,3]	Reasons therapy was extended											
		Rifampin resistant		Adverse event		Nonadherence		Treatment failure		Clinically indicated		Other	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**798**	**59**	**(7.4)**	**146**	**(18.3)**	**100**	**(12.5)**	**10**	**(1.3)**	**319**	**(40.0)**	**273**	**(34.2)**
Alabama	4	0	(0)	0	(0)	1	(25.0)	0	(0)	2	(50.0)	1	(25.0)
Alaska	5	0	(0)	0	(0)	3	(60.0)	0	(0)	2	(40.0)	2	(40.0)
Arizona	22	1	(4.5)	4	(18.2)	5	(22.7)	1	(4.5)	13	(59.1)	5	(22.7)
Arkansas	6	0	(0)	1	(16.7)	2	(33.3)	1	(16.7)	1	(16.7)	1	(16.7)
California	192	17	(8.9)	57	(29.7)	19	(9.9)	0	(0)	86	(44.8)	51	(26.6)
Colorado	5	0	(0)	1	(20.0)	0	(0)	0	(0)	3	(60.0)	1	(20.0)
Connecticut	6	1	(16.7)	3	(50.0)	0	(0)	0	(0)	3	(50.0)	3	(50.0)
Delaware	1	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)
District of Columbia	8	1	(12.5)	0	(0)	3	(37.5)	0	(0)	3	(37.5)	3	(37.5)
Florida	45	6	(13.3)	4	(8.9)	7	(15.6)	0	(0)	21	(46.7)	8	(17.8)
Georgia	24	1	(4.2)	1	(4.2)	3	(12.5)	0	(0)	6	(25.0)	13	(54.2)
Hawaii	14	0	(0)	3	(21.4)	1	(7.1)	0	(0)	3	(21.4)	9	(64.3)
Idaho	2	0	(0)	0	(0)	0	(0)	0	(0)	1	(50.0)	1	(50.0)
Illinois	24	1	(4.2)	4	(16.7)	3	(12.5)	0	(0)	7	(29.2)	10	(41.7)
Indiana	5	0	(0)	0	(0)	0	(0)	0	(0)	4	(80.0)	1	(20.0)
Iowa	4	0	(0)	0	(0)	1	(25.0)	0	(0)	0	(0)	3	(75.0)
Kansas	0	0	...	0	...	0	...	0	...	0	...	0	...
Kentucky	4	0	(0)	1	(25.0)	1	(25.0)	0	(0)	1	(25.0)	1	(25.0)
Louisiana	20	0	(0)	1	(5.0)	1	(5.0)	1	(5.0)	3	(15.0)	14	(70.0)
Maine	1	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)
Maryland	20	1	(5.0)	2	(10.0)	1	(5.0)	0	(0)	9	(45.0)	9	(45.0)
Massachusetts	20	2	(10.0)	1	(5.0)	0	(0)	0	(0)	8	(40.0)	9	(45.0)
Michigan	5	0	(0)	0	(0)	1	(20.0)	0	(0)	1	(20.0)	3	(60.0)
Minnesota	10	0	(0)	3	(30.0)	0	(0)	0	(0)	7	(70.0)	0	(0)
Mississippi	5	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	5	(100.0)
Missouri	4	0	(0)	1	(25.0)	0	(0)	0	(0)	0	(0)	3	(75.0)
Montana	0	0	...	0	...	0	...	0	...	0	...	0	...
Nebraska	0	0	...	0	...	0	...	0	...	0	...	0	...
Nevada	4	1	(25.0)	1	(25.0)	0	(0)	0	(0)	2	(50.0)	0	(0)
New Hampshire	1	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)
New Jersey	31	3	(9.7)	8	(25.8)	3	(9.7)	0	(0)	13	(41.9)	9	(29.0)
New Mexico	2	0	(0)	1	(50.0)	0	(0)	0	(0)	0	(0)	1	(50.0)

Table 58. (Con't) Reason Therapy Was Extended Beyond 12 Months: Reporting Areas, 2013[1]

Reporting area	Total cases with therapy extended[2,3]	Reasons therapy was extended											
		Rifampin resistant		Adverse event		Nonadherence		Treatment failure		Clinically indicated		Other	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
New York State[4]	31	0	(0)	5	(16.1)	4	(12.9)	0	(0)	8	(25.8)	16	(51.6)
New York City	26	2	(7.7)	4	(15.4)	2	(7.7)	2	(7.7)	7	(26.9)	9	(34.6)
North Carolina	12	4	(33.3)	2	(16.7)	3	(25.0)	0	(0)	1	(8.3)	7	(58.3)
North Dakota	2	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(100.0)
Ohio	20	3	(15.0)	2	(10.0)	3	(15.0)	0	(0)	9	(45.0)	3	(15.0)
Oklahoma	5	0	(0)	0	(0)	0	(0)	0	(0)	1	(20.0)	4	(80.0)
Oregon	9	2	(22.2)	4	(44.4)	0	(0)	0	(0)	1	(11.1)	2	(22.2)
Pennsylvania	37	3	(8.1)	24	(64.9)	7	(18.9)	4	(10.8)	21	(56.8)	6	(16.2)
Rhode Island	1	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
South Carolina	10	0	(0)	2	(20.0)	0	(0)	0	(0)	2	(20.0)	6	(60.0)
South Dakota	1	0	(0)	0	(0)	1	(100.0)	0	(0)	0	(0)	0	(0)
Tennessee	6	1	(16.7)	0	(0)	1	(16.7)	0	(0)	5	(83.3)	2	(33.3)
Texas	104	4	(3.8)	3	(2.9)	19	(18.3)	0	(0)	54	(51.9)	29	(27.9)
Utah	0	0	...	0	...	0	...	0	...	0	...	0	...
Vermont	1	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)	0	(0)
Virginia	12	2	(16.7)	2	(16.7)	0	(0)	0	(0)	5	(41.7)	4	(33.3)
Washington	20	1	(5.0)	0	(0)	3	(15.0)	0	(0)	2	(10.0)	14	(70.0)
West Virginia	0	0	...	0	...	0	...	0	...	0	...	0	...
Wisconsin	7	2	(28.6)	1	(14.3)	1	(14.3)	1	(14.3)	2	(28.6)	1	(14.3)
Wyoming	0	0	...	0	...	0	...	0	...	0	...	0	...
American Samoa[5]	0	0	...	0	...	0	...	0	...	0	...	0	...
Fed. States of Micronesia[5]	1	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(100.0)
Guam[5]	3	0	(0)	0	(0)	0	(0)	0	(0)	1	(33.3)	2	(66.7)
Marshall Islands[5]	6	1	(16.7)	0	(0)	0	(0)	0	(0)	0	(0)	5	(83.3)
N. Mariana Islands[5]	0	0	...	0	...	0	...	0	...	0	...	0	...
Puerto Rico[5]	3	1	(33.3)	0	(0)	0	(0)	0	(0)	0	(0)	2	(66.7)
Republic of Palau[5]	0	0	...	0	...	0	...	0	...	0	...	0	...
U.S. Virgin Islands[5]	0	0	...	0	...	0	...	0	...	0	...	0	...

[1]Most recent year for which data are available.
[2]Among patients who were alive at diagnosis, started on treatment and had a duration of treatment >365 days.
[3]Patient 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).
[4]Excludes New York City.
[5]Not included in U.S. totals.
Note: Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 59. Completion of Tuberculosis Therapy (COT) Cases and Percentages[1], by Hispanic Ethnicity and Non-Hispanic Race: Reporting Areas, 2013[2]

Reporting area	Total cases[3]	Hispanic[4]		Non-Hispanic													
				American Indian/ Alaska Native		Asian		Black/African American		Native Hawaiian/ Other Pacific Islander		White		Multiple race[5]		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
United States	**7,774**	**2,175**	**(90.1)**	**109**	**(89.9)**	**2,473**	**(90.4)**	**1,716**	**(89.0)**	**52**	**(78.8)**	**1,123**	**(88.2)**	**115**	**(91.3)**	**11**	**(81.8)**
Alabama	94	18	(83.3)	0	...	5	(100.0)	43	(97.7)	0	...	28	(100.0)	0	...	0	...
Alaska	67	1	(100.0)	52	(94.2)	12	(83.3)	0	...	0	...	2	(100.0)	0	...	0	...
Arizona	131	67	(88.1)	15	(80.0)	22	(86.4)	8	(62.5)	0	...	19	(94.7)	0	...	0	...
Arkansas	61	11	(90.9)	0	...	6	(100.0)	15	(60.0)	5	(60.0)	24	(66.7)	0	...	0	...
California	1,758	637	(90.0)	3	(100.0)	784	(88.9)	114	(80.7)	7	(57.1)	132	(86.4)	81	(90.1)	0	...
Colorado	58	17	(94.1)	0	...	18	(94.4)	18	(94.4)	0	...	5	(100.0)	0	...	0	...
Connecticut	49	16	(93.8)	0	...	18	(83.3)	7	(100.0)	0	...	8	(62.5)	0	...	0	...
Delaware	17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
District of Columbia	27	2	(100.0)	0	...	1	(0)	22	(86.4)	0	...	2	(100.0)	0	...	0	...
Florida	547	149	(93.3)	2	(50.0)	72	(94.4)	204	(94.1)	1	(100.0)	118	(93.2)	1	(100.0)	0	...
Georgia	290	49	(89.8)	2	(100.0)	56	(89.3)	147	(90.5)	0	...	32	(78.1)	2	(50.0)	2	(100.0)
Hawaii	102	0	...	1	(0)	81	(91.4)	1	(100.0)	11	(90.9)	2	(100.0)	6	(83.3)	0	...
Idaho	9	3	(100.0)	1	(100.0)	2	(100.0)	0	...	0	...	3	(66.7)	0	...	0	...
Illinois	267	84	(86.9)	0	...	96	(93.8)	61	(83.6)	0	...	26	(96.2)	0	...	0	...
Indiana	77	8	(100.0)	0	...	31	(96.8)	16	(93.8)	0	...	22	(95.5)	0	...	0	...
Iowa	41	5	(80.0)	0	...	15	(80.0)	8	(87.5)	1	(100.0)	10	(100.0)	2	(100.0)	0	...
Kansas	30	8	(100.0)	0	...	14	(100.0)	2	(100.0)	1	(100.0)	5	(100.0)	0	...	0	...
Kentucky	47	6	(100.0)	0	...	8	(100.0)	10	(90.0)	0	...	23	(87.0)	0	...	0	...
Louisiana	120	12	(83.3)	0	...	13	(69.2)	50	(78.0)	0	...	45	(68.9)	0	...	0	...
Maine	12	1	(100.0)	0	...	1	(100.0)	5	(100.0)	0	...	5	(80.0)	0	...	0	...
Maryland	149	20	(95.0)	0	...	42	(85.7)	64	(92.2)	2	(100.0)	21	(95.2)	0	...	0	...
Massachusetts	149	23	(87.0)	0	...	51	(90.2)	40	(95.0)	0	...	34	(94.1)	1	(100.0)	0	...
Michigan	107	13	(92.3)	0	...	38	(94.7)	27	(92.6)	3	(100.0)	26	(100.0)	0	...	0	...
Minnesota	125	15	(93.3)	3	(100.0)	47	(93.6)	50	(94.0)	0	...	10	(100.0)	0	...	0	...
Mississippi	42	7	(100.0)	0	...	3	(33.3)	24	(95.8)	0	...	8	(87.5)	0	...	0	...
Missouri	84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Montana	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nebraska	20	9	(88.9)	0	...	5	(100.0)	1	(100.0)	0	...	3	(100.0)	1	(100.0)	1	(100.0)
Nevada	78	25	(96.0)	0	...	28	(96.4)	12	(100.0)	0	...	13	(92.3)	0	...	0	...
New Hampshire	12	3	(100.0)	0	...	4	(75.0)	3	(66.7)	0	...	2	(100.0)	0	...	0	...
New Jersey	252	88	(94.3)	0	...	98	(89.8)	37	(86.5)	0	...	29	(100.0)	0	...	0	...

Table 59. (Cont'd) Completion of Tuberculosis Therapy (COT) Cases and Percentages[1], by Hispanic Ethnicity and Non-Hispanic Race: Reporting Areas, 2013[2]

Reporting area	Total cases[3]	Hispanic[4]		Non-Hispanic											
				American Indian/ Alaska Native		Asian		Black/African American		Native Hawaiian/ Other Pacific Islander		White		Multiple race[5]		Unknown/ missing	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
New Mexico	34	17	(100.0)	3	(100.0)	9	(88.9)	0	...	0	...	5	(80.0)	0	...	0	...
New York State[6]	172	45	(88.9)	2	(100.0)	57	(94.7)	39	(84.6)	0	...	25	(84.0)	1	(100.0)	3	(66.7)
New York City	544	140	(92.9)	0	...	247	(96.4)	110	(95.5)	1	(100.0)	37	(97.3)	8	(100.0)	1	(0)
North Carolina	178	33	(100.0)	8	(100.0)	39	(94.9)	70	(97.1)	0	...	23	(100.0)	5	(100.0)	0	...
North Dakota	8	1	(0)	3	(66.7)	0	...	0	...	0	...	3	(100.0)	0	...	1	(100.0)
Ohio	118	10	(100.0)	0	...	34	(88.2)	36	(80.6)	0	...	37	(78.4)	0	...	1	(100.0)
Oklahoma	58	11	(100.0)	7	(85.7)	9	(100.0)	5	(80.0)	2	(100.0)	22	(90.9)	2	(100.0)	0	...
Oregon	61	21	(95.2)	0	...	22	(86.4)	6	(50.0)	0	...	12	(91.7)	0	...	0	...
Pennsylvania	176	23	(82.6)	0	...	82	(78.0)	49	(71.4)	0	...	22	(72.7)	0	...	0	...
Rhode Island	23	5	(100.0)	0	...	7	(85.7)	7	(100.0)	0	...	4	(100.0)	0	...	0	...
South Carolina	92	10	(70.0)	0	...	5	(60.0)	52	(88.5)	1	(100.0)	24	(87.5)	0	...	0	...
South Dakota	6	1	(100.0)	3	(66.7)	0	...	2	(100.0)	0	...	0	...	0	...	0	...
Tennessee	118	15	(86.7)	0	...	18	(94.4)	56	(98.2)	0	...	28	(100.0)	1	(100.0)	0	...
Texas	951	468	(87.2)	0	...	158	(95.6)	186	(87.6)	0	...	136	(83.8)	2	(100.0)	1	(100.0)
Utah	28	10	(100.0)	0	...	7	(100.0)	5	(100.0)	2	(100.0)	4	(100.0)	0	...	0	...
Vermont	4	0	...	0	...	4	(100.0)	0	...	0	...	0	...	0	...	0	...
Virginia	148	27	(100.0)	0	...	56	(94.6)	50	(90.0)	0	...	15	(100.0)	0	...	0	...
Washington	178	26	(80.8)	2	(100.0)	96	(81.3)	20	(95.0)	9	(77.8)	23	(95.7)	1	(100.0)	1	(100.0)
West Virginia	9	0	...	0	...	1	(100.0)	1	(100.0)	0	...	6	(100.0)	1	(100.0)	0	...
Wisconsin	42	5	(100.0)	0	...	23	(91.3)	6	(83.3)	0	...	8	(87.5)	0	...	0	...
Wyoming	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
American Samoa[7]	2	0	...	0	...	0	...	0	...	1	(100.0)	0	...	0	...	1	(100.0)
Fed. States of Micronesia[7]	117	0	...	0	...	2	(0)	0	...	111	(94.6)	0	...	1	(100.0)	3	(100.0)
Guam[7]	44	0	...	0	...	16	(93.8)	0	...	26	(96.2)	1	(100.0)	0	...	1	(100.0)
Marshall Islands[7]	137	1	(100.0)	0	...	0	...	0	...	134	(91.0)	0	...	0	...	2	(50.0)
N. Mariana Islands[7]	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerto Rico[7]	37	34	(91.2)	0	...	1	(100.0)	2	(100.0)	0	...	0	...	0	...	0	...
Republic of Palau[7]	7	0	...	0	...	3	(100.0)	0	...	3	(100.0)	0	...	0	...	1	(100.0)
U.S. Virgin Islands[7]	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

[1]Percentages shown only for reporting areas with information reported for ≥90% of cases, and indicate the percentage of those who completed therapy <1 year.
[2]Most recent year for which data are available.
[3]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, 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.
[4]Persons of Hispanic origin may be of any race.
[5]Indicates two or more races reported for a person and does not include persons of Hispanic ethnicity.
[6]Excludes New York City.
[7]Not included in U.S. totals.
Note: Case counts and percentage for race categories do not include persons of Hispanic ethnicity. See Technical Notes for description of completion of therapy calculation.
Ellipses (...) indicate that the percentage cannot be calculated, and the denominator is 0.

Table 60. Tuberculosis Cases and Percentages, by Completion of Tuberculosis Therapy (COT): Reporting Areas, 2013[1]

Reporting area	Total cases	Therapy ≤1 year indicated[2,3,4]			Therapy >1 year indicated[3,5]	
		No.	COT ≤1 year(%)	COT(%)	No.	COT(%)
United States	**9,550**	**7,774**	**(89.6)**	**(95.9)**	**567**	**(92.8)**
Alabama	108	94	(95.7)	(98.9)	1	(100.0)
Alaska	71	67	(92.5)	(98.5)	2	(100.0)
Arizona	184	131	(86.3)	(95.4)	8	(100.0)
Arkansas	72	61	(72.1)	(82.0)	3	(100.0)
California	2,164	1758	(88.5)	(95.5)	102	(89.2)
Colorado	74	58	(94.8)	(98.3)	4	(100.0)
Connecticut	62	49	(85.7)	(91.8)	5	(100.0)
Delaware	18	17	—	—	1	—
District of Columbia	37	27	(85.2)	(100.0)	4	(100.0)
Florida	651	547	(93.6)	(97.6)	33	(97.0)
Georgia	339	290	(88.6)	(94.1)	17	(100.0)
Hawaii	115	102	(90.2)	(100.0)	7	(100.0)
Idaho	11	9	(88.9)	(100.0)	1	(100.0)
Illinois	327	267	(89.5)	(97.0)	14	(100.0)
Indiana	94	77	(96.1)	(100.0)	7	(85.7)
Iowa	47	41	(87.8)	(97.6)	2	(100.0)
Kansas	36	30	(100.0)	(100.0)	2	(50.0)
Kentucky	59	47	(91.5)	(97.9)	3	(100.0)
Louisiana	139	120	(74.2)	(87.5)	9	(77.8)
Maine	15	12	(91.7)	(100.0)	0	...
Maryland	175	149	(91.3)	(100.0)	9	(100.0)
Massachusetts	201	149	(91.9)	(93.3)	24	(87.5)
Michigan	141	107	(95.3)	(98.1)	13	(100.0)
Minnesota	151	125	(94.4)	(98.4)	18	(88.9)
Mississippi	65	42	(90.5)	(97.6)	4	(100.0)
Missouri	104	84	—	—	7	—
Montana	6	4	—	—	0	...
Nebraska	21	20	(95.0)	(95.0)	0	...
Nevada	91	78	(96.2)	(100.0)	4	(100.0)
New Hampshire	15	12	(83.3)	(91.7)	1	(100.0)
New Jersey	319	252	(92.1)	(97.2)	30	(86.7)
New Mexico	50	34	(94.1)	(97.1)	3	(100.0)
New York State[6]	215	172	(89.0)	(97.1)	23	(91.3)
New York City	650	544	(95.2)	(97.6)	55	(96.4)
North Carolina	216	178	(97.8)	(99.4)	18	(100.0)
North Dakota	12	8	(75.0)	(100.0)	1	(100.0)
Ohio	148	118	(83.9)	(95.8)	10	(100.0)
Oklahoma	70	58	(93.1)	(100.0)	2	(100.0)
Oregon	73	61	(86.9)	(96.7)	5	(80.0)
Pennsylvania	214	176	(76.1)	(93.2)	9	(100.0)
Rhode Island	27	23	(95.7)	(95.7)	2	(100.0)
South Carolina	112	92	(84.8)	(91.3)	8	(100.0)
South Dakota	9	6	(83.3)	(100.0)	1	(0)
Tennessee	143	118	(96.6)	(100.0)	4	(100.0)
Texas	1,209	951	(88.2)	(94.4)	64	(93.8)
Utah	33	28	(100.0)	(100.0)	1	(100.0)
Vermont	5	4	(100.0)	(100.0)	1	(0)
Virginia	179	148	(94.6)	(98.6)	10	(100.0)
Washington	210	178	(84.8)	(93.8)	9	(77.8)
West Virginia	13	9	(100.0)	(100.0)	1	(0)
Wisconsin	50	42	(90.5)	(100.0)	5	(80.0)
Wyoming	0	0	—	—	0	...
American Samoa[7]	2	2	(100.0)	(100.0)	0	...
Fed. States of Micronesia[7]	128	117	(93.2)	(94.0)	4	(100.0)
Guam[7]	48	44	(95.5)	(100.0)	1	(100.0)
Marshall Islands[7]	153	137	(90.5)	(93.4)	3	(100.0)
N. Mariana Islands[7]	31	0	—	—	0	...
Puerto Rico[7]	49	37	(91.9)	(97.3)	1	(100.0)
Republic of Palau[7]	7	7	(100.0)	(100.0)	0	...
U.S. Virgin Islands[7]	2	2	—	—	0	...

[1]Most recent year for which data are available.

[2]Initial isolate susceptible to rifampin (n = 5,755) or susceptibility unknown (n = 111); culture negative (n = 1,647); culture status unknown (n = 261).

[3]Number 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). Percentages shown only for reporting areas with information reported for ≥90% of cases.

[4]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, 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.

[5]Initial 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.

[6]Excludes New York City.

[7]Not 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 61. Tuberculosis Cases and Percentages Among Persons Completing Therapy for Whom Therapy Was Indicated for ≤1 Year: Reporting Areas, 2009–2013[1]

Reporting area	Year									
	2009		2010		2011		2012		2013	
	No.[2]	(%)[3]	No.[2]	(%)[3]	No.[2]	(%)[3]	No.[2]	(%)[3]	No.[2]	(%)[3]
United States	**9,510**	**(88.8)**	**9,122**	**(89.7)**	**8,492**	**(89.6)**	**8,113**	**(90.0)**	**7,774**	**(89.6)**
Alabama	141	(94.3)	117	(91.5)	138	(93.5)	119	(90.8)	94	(95.7)
Alaska	32	(84.4)	49	(93.9)	54	(88.9)	61	(93.4)	67	(92.5)
Arizona	173	(83.2)	217	(86.2)	166	(87.3)	139	(94.2)	131	(86.3)
Arkansas	58	(86.2)	69	(87.0)	67	(83.6)	58	(81.0)	61	(72.1)
California	2,081	(84.3)	1,897	(88.0)	1,875	(87.6)	1,769	(89.0)	1,758	(88.5)
Colorado	65	(95.4)	53	(92.5)	59	(96.6)	47	(95.7)	58	(94.8)
Connecticut	79	(88.6)	67	(92.5)	68	(94.1)	60	(93.3)	49	(85.7)
Delaware	16	(81.3)	13	(100.0)	17	(94.1)	21	—	17	—
District of Columbia	32	(81.3)	31	(87.1)	48	(81.3)	27	(96.3)	27	(85.2)
Florida	689	(93.2)	706	(94.9)	607	(92.9)	562	(91.5)	547	(93.6)
Georgia	335	(85.4)	330	(90.0)	277	(89.5)	292	(91.1)	290	(88.6)
Hawaii	92	(83.7)	104	(95.2)	110	(90.0)	91	(92.3)	102	(90.2)
Idaho	16	(93.8)	14	(85.7)	11	(81.8)	13	(84.6)	9	(88.9)
Illinois	340	(90.3)	301	(87.4)	278	(92.1)	289	(91.7)	267	(89.5)
Indiana	100	(91.0)	80	(93.8)	87	(89.7)	85	(92.9)	77	(96.1)
Iowa	39	(87.2)	39	(94.9)	32	(87.5)	36	(80.6)	41	(87.8)
Kansas	56	(100.0)	36	(100.0)	27	(88.9)	31	(93.5)	30	(100.0)
Kentucky	59	(91.5)	72	(88.9)	56	(82.1)	68	(94.1)	47	(91.5)
Louisiana	162	(88.9)	171	(80.7)	140	(82.9)	119	(80.7)	120	(74.2)
Maine	7	(100.0)	6	(100.0)	8	(75.0)	17	(64.7)	12	(91.7)
Maryland	180	(90.0)	179	(91.6)	194	(94.8)	192	(90.1)	149	(91.3)
Massachusetts	212	(83.0)	187	(84.0)	155	(83.9)	172	(84.9)	149	(91.9)
Michigan	109	(89.9)	145	(89.7)	138	(90.6)	115	(87.8)	107	(95.3)
Minnesota	133	(93.2)	116	(90.5)	101	(95.0)	133	(95.5)	125	(94.4)
Mississippi	104	(88.5)	101	(93.1)	73	(91.8)	67	(89.6)	42	(90.5)
Missouri	72	(87.5)	95	(86.3)	81	(91.4)	71	—	84	—
Montana	7	(100.0)	6	(100.0)	7	(100.0)	5	(80.0)	4	—
Nebraska	28	(85.7)	24	(91.7)	20	(85.0)	17	—	20	(95.0)
Nevada	91	(89.0)	100	(94.0)	82	(95.1)	71	(90.1)	78	(96.2)
New Hampshire	13	(100.0)	8	(87.5)	10	(100.0)	7	(100.0)	12	(83.3)
New Jersey	337	(92.9)	325	(92.9)	252	(90.1)	232	(93.5)	252	(92.1)
New Mexico	31	(93.5)	29	(93.1)	38	(92.1)	27	(96.3)	34	(94.1)
New York State[4]	182	(87.9)	204	(91.7)	187	(94.1)	169	(94.1)	172	(89.0)
New York City	634	(92.4)	599	(92.8)	565	(92.0)	540	(93.7)	544	(95.2)
North Carolina	215	(93.5)	248	(96.0)	200	(95.5)	187	(97.9)	178	(97.8)
North Dakota	3	(66.7)	8	(75.0)	5	—	24	(54.2)	8	(75.0)
Ohio	142	(91.5)	150	(89.3)	118	(88.1)	129	(86.0)	118	(83.9)
Oklahoma	85	(87.1)	69	(94.2)	72	(91.7)	72	(87.5)	58	(93.1)
Oregon	75	(97.3)	71	(98.6)	64	(89.1)	53	(96.2)	61	(86.9)
Pennsylvania	195	(83.1)	181	(86.7)	202	(85.1)	181	(81.8)	176	(76.1)
Rhode Island	21	(90.5)	22	(68.2)	25	(80.0)	19	(89.5)	23	(95.7)
South Carolina	134	(92.5)	125	(93.6)	113	(95.6)	105	(90.5)	92	(84.8)
South Dakota	16	(93.8)	13	(84.6)	12	(83.3)	14	(92.9)	6	(83.3)
Tennessee	173	(94.2)	146	(93.2)	130	(94.6)	142	(95.8)	118	(96.6)
Texas	1,187	(89.4)	1,093	(85.2)	1,071	(87.9)	1,025	(90.0)	951	(88.2)
Utah	26	(100.0)	13	(100.0)	25	(100.0)	29	(96.6)	28	(100.0)
Vermont	5	(80.0)	5	(100.0)	6	(83.3)	4	(100.0)	4	(100.0)
Virginia	237	(88.2)	235	(88.9)	190	(88.9)	191	(84.8)	148	(94.6)
Washington	219	(94.1)	194	(88.7)	155	(85.2)	148	(85.1)	178	(84.8)
West Virginia	15	(73.3)	12	(100.0)	10	(90.0)	7	(100.0)	9	(100.0)
Wisconsin	55	(83.6)	41	(90.2)	62	(90.3)	58	(91.4)	42	(90.5)
Wyoming	2	(50.0)	6	—	4	—	3	—	0	—
American Samoa[5]	3	(66.7)	3	(33.3)	3	—	1	(100.0)	2	(100.0)
Fed. States of Micronesia[5]	176	(83.0)	160	(91.9)	130	(90.0)	161	(88.2)	117	(93.2)
Guam[5]	93	(96.8)	86	(95.3)	72	(94.4)	60	(86.7)	44	(95.5)
Marshall Islands[5]	109	(87.2)	189	—	143	...	131	...	137	(90.5)
N. Mariana Islands[5]	28	(96.4)	25	(96.0)	29	(75.9)	19	(84.2)	0	—
Puerto Rico[5]	51	(94.1)	70	(90.0)	34	(94.1)	49	(91.8)	37	(91.9)
Republic of Palau[5]	15	(86.7)	16	(100.0)	6	(83.3)	4	(100.0)	7	(100.0)
U.S. Virgin Islands[5]	0	—	0	—	0	—	3	—	2	—

[1]Most recent year for which data are available.
[2]Total 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, 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.
[3]Percentage of total cases in persons who completed therapy within one year for whom therapy less than one year was indicated. Percentages shown only for reporting areas with information reported for ≥90% of cases.
[4]Excludes New York City.
[5]Not included in U.S. totals.

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

Morbidity Tables

Metropolitan Statistical Areas, 2015

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Table 62. Tuberculosis Cases and Case Rates per 100,000 Population: Metropolitan Statistical Areas with ≥500,000 Population, 2015 and 2014

Metropolitan statistical area	Cases		Case rates		Population estimates 2015
	2015	2014	2015	2015	
Akron, OH	12	6	1.7	0.9	704,243
Albany-Schenectady-Troy, NY	6	13	0.7	1.5	881,830
Albuquerque, NM	14	15	1.5	1.7	907,301
Allentown-Bethlehem-Easton, PA-NJ	7	5	0.8	0.6	832,327
Atlanta-Sandy Springs-Roswell, GA	219	228	3.8	4.1	5,710,795
Augusta-Richmond County, GA-SC	14	12	2.4	2.1	590,146
Austin-Round Rock, TX	77	64	3.8	3.3	2,000,860
Bakersfield, CA	29	40	3.3	4.6	882,176
Baltimore-Columbia-Towson, MD	64	70	2.3	2.5	2,797,407
Baton Rouge, LA	23	19	2.8	2.3	830,480
Birmingham-Hoover, AL	30	47	2.6	4.1	1,145,647
Boise City, ID	8	6	1.2	0.9	676,909
Boston-Cambridge-Newton, MA-NH	149	159	3.1	3.4	4,774,321
Bridgeport-Stamford-Norwalk, CT	24	16	2.5	1.7	948,053
Buffalo-Cheektowaga-Niagara Falls, NY	17	19	1.5	1.7	1,135,230
Cape Coral-Fort Myers, FL	17	12	2.4	1.8	701,982
Charleston-North Charleston, SC	19	16	2.6	2.2	744,526
Charlotte-Concord-Gastonia, NC-SC	41	36	1.7	1.5	2,426,363
Chattanooga, TN-GA	10	7	1.8	1.3	547,776
Chicago-Naperville-Elgin, IL-IN-WI	304	280	3.2	2.9	9,551,031
Cincinnati, OH-KY-IN	21	27	1.0	1.3	2,157,719
Cleveland-Elyria, OH	39	40	1.9	1.9	2,060,810
Colorado Springs, CO	4	1	0.6	0.1	697,856
Columbia, SC	10	11	1.2	1.4	810,068
Columbus, OH	41	54	2.0	2.7	2,021,632
Dallas-Fort Worth-Arlington, TX	311	295	4.4	4.2	7,102,796
Dayton, OH	9	9	1.1	1.1	800,909
Deltona-Daytona Beach-Ormond Beach, FL	6	8	1.0	1.3	623,279
Denver-Aurora-Lakewood, CO	50	49	1.8	1.8	2,814,330
Des Moines-West Des Moines, IA	8	12	1.3	2.0	622,899
Detroit-Warren-Dearborn, MI	75	68	1.7	1.6	4,302,043
Durham-Chapel Hill, NC	9	14	1.6	2.6	552,493
El Paso, TX	38	43	4.5	5.1	838,972
Fayetteville-Springdale-Rogers, AR-MO	30	36	5.8	7.2	513,559
Fresno, CA	41	51	4.2	5.3	974,861
Grand Rapids-Wyoming, MI	20	10	1.9	1.0	1,038,583
Greensboro-High Point, NC	27	23	3.6	3.1	752,157
Greenville-Anderson-Maudlin, SC	11	10	1.3	1.2	874,869
Harrisburg-Carlisle, PA	11	12	1.9	2.1	565,006
Hartford-West Hartford-East Hartford, CT	25	21	2.1	1.7	1,211,324
Houston-The Woodlands-Sugar Land, TX	383	381	5.8	5.9	6,656,947
Indianapolis-Carmel-Anderson, IN	63	61	3.2	3.1	1,988,817
Jackson, MS	26	24	4.5	4.1	578,777
Jacksonville, FL	58	50	4.0	3.5	1,449,481
Kansas City, MO-KS	30	30	1.4	1.4	2,087,471
Knoxville, TN	8	9	0.9	1.1	861,424
Lakeland-Winter Haven, FL	26	15	4.0	2.4	650,092
Lancaster, PA	6	7	1.1	1.3	536,624
Las Vegas-Henderson-Paradise, NV	70	66	3.3	3.2	2,114,801
Lexington-Fayette, KY	17	...	3.4	...	500,535
Little Rock-North Little Rock-Conway, AR	21	12	2.9	1.6	731,612
Los Angeles-Long Beach-Anaheim, CA	805	807	6.0	6.1	13,340,068
Louisville-Jefferson County, KY-IN	31	36	2.4	2.8	1,278,413
Madison, WI	8	9	1.2	1.4	641,385
McAllen-Edinburg-Mission, TX	72	70	8.5	8.4	842,304
Memphis, TN-MS-AR	56	60	4.2	4.5	1,344,127
Miami-Fort Lauderdale-West Palm Beach, FL	250	235	4.2	4.0	6,012,331

Table 62. (Cont'd) Tuberculosis Cases and Case Rates per 100,000 Population: Metropolitan Statistical Areas with ≥500,000 Population, 2015 and 2014

Metropolitan statistical area	Cases		Case rates		Population estimates 2015
	2015	2014	2015	2014	
Milwaukee-Waukesha-West Allis, WI	31	18	2.0	1.1	1,575,747
Minneapolis-St. Paul-Bloomington, MN-WI	114	102	3.2	2.9	3,524,583
Modesto, CA	18	13	3.3	2.4	538,388
Nashville-Davidson-Murfreesboro-Franklin, TN	46	56	2.5	3.1	1,830,345
New Haven-Milford, CT	18	11	2.1	1.3	859,470
New Orleans-Metairie, LA	35	53	2.8	4.2	1,262,888
New York-Newark-Jersey City, NY-NJ-PA	943	965	4.7	4.8	20,182,305
Northport-Sarasota-Bradenton, FL	16	14	2.1	1.9	768,918
Ogden-Clearfield, UT	2	1	0.3	0.2	642,850
Oklahoma City, OK	25	18	1.8	1.3	1,358,452
Omaha-Council Bluffs, NE-IA	18	18	2.0	2.0	915,312
Orlando-Kissimmee-Sanford, FL	68	84	2.8	3.6	2,387,138
Oxnard-Thousand Oaks-Ventura, CA	24	46	2.8	5.4	850,536
Palm Bay-Melbourne-Titusville, FL	12	11	2.1	2.0	568,088
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	163	158	2.7	2.6	6,069,875
Phoenix-Mesa-Scottsdale, AZ	127	128	2.8	2.9	4,574,531
Pittsburgh, PA	15	23	0.6	1.0	2,353,045
Portland-South Portland, ME	9	8	1.7	1.5	526,295
Portland-Vancouver-Hillsboro, OR-WA	57	71	2.4	3.0	2,389,228
Providence-Warwick, RI-MA	36	24	2.2	1.5	1,613,070
Provo-Orem, UT	2	0	0.3	0.0	585,799
Raleigh, NC	30	22	2.4	1.8	1,273,568
Richmond, VA	14	17	1.1	1.3	1,271,334
Riverside-San Bernardino-Ontario, CA	121	115	2.7	2.6	4,489,159
Rochester, NY	19	21	1.8	1.9	1,081,954
Sacramento-Roseville-Arden-Arcade, CA	91	87	4.0	3.9	2,274,194
St. Louis, MO-IL	40	44	1.4	1.6	2,836,114
Salt Lake City, UT	31	24	2.6	2.1	1,170,266
San Antonio-New Braunfels, TX	89	91	3.7	3.9	2,384,075
San Diego-Carlsbad, CA	234	220	7.1	6.7	3,299,521
San Francisco-Oakland-Hayward, CA	353	356	7.6	7.7	4,656,132
San Jose-Sunnyvale-Santa Clara, CA	199	163	10.1	8.3	1,976,836
Santa Rosa, CA	9	12	1.8	2.4	502,146
Scranton-Wilkes-Barre-Hazleton, PA	6	4	1.1	0.7	558,166
Seattle-Tacoma-Bellevue, WA	143	132	3.8	3.6	3,733,580
Spokane-Spokane Valley, WA	2	5	0.4	0.9	547,824
Springfield, MA	8	11	1.3	1.7	631,982
Stockton-Lodi, CA	58	54	8.0	7.6	726,106
Syracuse, NY	10	11	1.5	1.7	660,458
Tampa-St. Petersburg-Clearwater, FL	63	81	2.1	2.8	2,975,225
Toledo, OH	9	2	1.5	0.3	605,956
Tucson, AZ	36	32	3.6	3.2	1,010,025
Tulsa, OK	17	22	1.7	2.3	981,005
Urban Honolulu, HI	98	112	9.8	11.3	998,714
Virginia Beach-Norfolk-Newport News, VA-NC	34	23	2.0	1.3	1,724,876
Washington-Arlington-Alexandria, DC-VA-MD-WV	271	270	4.4	4.5	6,097,684
Wichita, KS	14	12	2.2	1.9	644,610
Winston-Salem, NC	10	8	1.5	1.2	659,330
Worcester, MA-CT	28	24	3.0	2.6	935,536
Youngstown-Warren-Boardman, OH-PA	2	1	0.4	0.2	549,885
Total - 107 areas	**7,618**	**7,547**	**3.5**	**3.5**	**218,373,901**
San Juan-Caguas-Guaynabo, PR	35	34	1.6	1.5	2,196,538

Note: 2015 and 2014 population case counts and rates updated using County Totals Dataset: Population, Population Change and Estimated Components of Population Change: April 1, 2010 to July 1, 2015 (http://www.census.gov/popest/data/counties/totals/2015/files/CO-EST2015-alldata.csv); accessed July 27, 2016.

Ellipses (...) indicate metropolitan statistical area was not included for 2014 data because of <500,000 population.

See Technical Notes for definition of metropolitan statistical area.

Table 63. Tuberculosis Cases, by Age Group: Metropolitan Statistical Areas with ≥500,000 Population, 2015

Metropolitan statistical area	Total cases	Under 5	5–14	15–24	25–44	45–64	≥65
Akron, OH	12	0	1	2	3	3	3
Albany-Schenectady-Troy, NY	6	0	0	0	3	0	3
Albuquerque, NM	14	0	0	0	3	6	5
Allentown-Bethlehem-Easton, PA-NJ	7	0	0	0	0	4	3
Atlanta-Sandy Springs-Roswell, GA	219	10	3	16	76	82	32
Augusta-Richmond County, GA-SC	14	0	0	1	6	7	0
Austin-Round Rock, TX	77	0	3	8	33	24	9
Bakersfield, CA	29	0	0	1	6	16	6
Baltimore-Columbia-Towson, MD	64	2	1	8	25	17	11
Baton Rouge, LA	23	0	0	1	7	11	4
Birmingham-Hoover, AL	30	0	0	1	6	17	6
Boise City, ID	8	1	1	0	3	0	3
Boston-Cambridge-Newton, MA-NH	149	1	3	12	45	45	43
Bridgeport-Stamford-Norwalk, CT	24	0	0	2	12	7	3
Buffalo-Cheektowaga-Niagara Falls, NY	17	1	1	2	4	8	1
Cape Coral-Fort Myers, FL	17	0	1	4	1	7	4
Charleston-North Charleston, SC	19	2	0	0	6	7	4
Charlotte-Concord-Gastonia, NC-SC	41	0	1	1	17	18	4
Chattanooga, TN-GA	10	1	0	0	3	1	5
Chicago-Naperville-Elgin, IL-IN-WI	304	8	4	22	90	94	86
Cincinnati, OH-KY-IN	21	0	0	2	8	9	2
Cleveland-Elyria, OH	39	2	0	4	8	13	12
Colorado Springs, CO	4	0	0	1	1	2	0
Columbia, SC	10	0	1	1	3	3	2
Columbus, OH	41	1	0	9	21	6	4
Dallas-Fort Worth-Arlington, TX	311	6	8	33	100	114	50
Dayton, OH	9	0	0	3	1	2	3
Deltona-Daytona Beach-Ormond Beach, FL	6	0	0	0	1	5	0
Denver-Aurora-Lakewood, CO	50	3	2	3	17	13	12
Des Moines-West Des Moines, IA	8	1	0	1	5	0	1
Detroit-Warren-Dearborn, MI	75	2	0	8	20	22	23
Durham-Chapel Hill, NC	9	0	0	1	4	1	3
El Paso, TX	38	1	2	5	5	10	15
Fayetteville-Springdale-Rogers, AR-MO	30	8	1	4	8	5	4
Fresno, CA	41	3	0	6	7	14	11
Grand Rapids-Wyoming, MI	20	0	1	1	9	5	4
Greensboro-High Point, NC	27	2	1	4	14	5	1
Greenville-Anderson-Maudlin, SC	11	0	0	3	2	3	3
Harrisburg-Carlisle, PA	11	0	1	2	4	3	1
Hartford-West Hartford-East Hartford, CT	25	0	0	4	11	6	4
Houston-The Woodlands-Sugar Land, TX	383	16	13	33	117	139	65
Indianapolis-Carmel-Anderson, IN	63	2	1	15	21	17	7
Jackson, MS	26	1	0	3	3	14	5
Jacksonville, FL	58	3	3	6	16	25	5
Kansas City, MO-KS	30	0	2	7	12	7	2
Knoxville, TN	8	0	0	2	1	1	4
Lakeland-Winter Haven, FL	26	0	0	0	5	17	4
Lancaster, PA	6	0	0	0	2	3	1
Las Vegas-Henderson-Paradise, NV	70	0	0	5	25	23	17
Lexington-Fayette, KY	17	0	1	1	5	7	3
Little Rock-North Little Rock-Conway, AR	21	0	0	2	7	8	4
Los Angeles-Long Beach-Anaheim, CA	805	6	8	57	168	303	263
Louisville-Jefferson County, KY-IN	31	1	1	5	8	13	3
Madison, WI	8	0	0	0	5	3	0
McAllen-Edinburg-Mission, TX	72	7	1	7	18	21	18
Memphis, TN-MS-AR	56	4	0	6	18	18	10

Table 63. (Cont'd) Tuberculosis Cases, by Age Group: Metropolitan Statistical Areas with ≥500,000 Population, 2015

Metropolitan statistical area	Total cases	Under 5	5–14	15–24	25–44	45–64	≥65
Miami-Fort Lauderdale-West Palm Beach, FL	250	5	5	28	79	94	39
Milwaukee-Waukesha-West Allis, WI	31	0	1	1	9	9	11
Minneapolis-St. Paul-Bloomington, MN-WI	114	1	9	5	53	28	18
Modesto, CA	18	1	1	1	3	4	8
Nashville-Davidson-Murfreesboro-Franklin, TN	46	2	0	4	16	12	12
New Haven-Milford, CT	18	0	0	0	8	8	2
New Orleans-Metairie, LA	35	1	0	5	13	11	5
New York-Newark-Jersey City, NY-NJ-PA	943	16	12	96	316	279	224
Northport-Sarasota-Bradenton, FL	16	0	0	1	3	8	4
Ogden-Clearfield, UT	2	0	0	0	1	0	1
Oklahoma City, OK	25	1	0	2	5	9	8
Omaha-Council Bluffs, NE-IA	18	1	0	2	9	3	3
Orlando-Kissimmee-Sanford, FL	68	0	0	4	26	28	10
Oxnard-Thousand Oaks-Ventura, CA	24	0	1	2	5	5	11
Palm Bay-Melbourne-Titusville, FL	12	0	0	1	0	4	7
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	163	3	1	8	49	63	39
Phoenix-Mesa-Scottsdale, AZ	127	5	5	20	40	31	26
Pittsburgh, PA	15	0	1	0	5	5	4
Portland-South Portland, ME	9	0	0	3	2	1	3
Portland-Vancouver-Hillsboro, OR-WA	57	1	2	8	20	13	13
Providence-Warwick, RI-MA	36	0	1	2	9	12	12
Provo-Orem, UT	2	0	0	1	1	0	0
Raleigh, NC	30	0	0	2	7	7	14
Richmond, VA	14	1	0	1	3	3	6
Riverside-San Bernardino-Ontario, CA	121	6	2	17	22	43	31
Rochester, NY	19	5	2	5	3	3	1
Sacramento-Roseville-Arden-Arcade, CA	91	0	4	10	23	17	37
St. Louis, MO-IL	40	2	2	2	12	12	10
Salt Lake City, UT	31	4	2	4	9	10	2
San Antonio-New Braunfels, TX	89	0	2	6	32	32	17
San Diego-Carlsbad, CA	234	5	6	29	60	66	68
San Francisco-Oakland-Hayward, CA	353	4	2	29	85	108	125
San Jose-Sunnyvale-Santa Clara, CA	199	1	0	9	66	59	64
Santa Rosa, CA	9	0	0	3	3	2	1
Scranton-Wilkes-Barre-Hazleton, PA	6	0	0	1	1	2	2
Seattle-Tacoma-Bellevue, WA	143	4	5	17	52	27	38
Spokane-Spokane Valley, WA	2	0	0	0	0	2	0
Springfield, MA	8	0	0	0	2	5	1
Stockton-Lodi, CA	58	3	1	5	17	18	14
Syracuse, NY	10	1	0	2	3	1	3
Tampa-St. Petersburg-Clearwater, FL	63	1	2	6	16	24	14
Toledo, OH	9	0	1	1	4	0	3
Tucson, AZ	36	3	1	3	8	13	8
Tulsa, OK	17	1	2	1	2	5	6
Urban Honolulu, HI	98	3	3	19	20	27	26
Virginia Beach-Norfolk-Newport News, VA-NC	34	1	2	5	9	11	6
Washington-Arlington-Alexandria, DC-VA-MD-WV	271	6	6	21	101	66	71
Wichita, KS	14	0	0	0	3	8	3
Winston-Salem, NC	10	2	0	2	2	3	1
Worcester, MA-CT	28	1	1	2	12	4	8
Youngstown-Warren-Boardman, OH-PA	2	0	0	0	0	1	1
Total - 107 areas	**7,618**	**186**	**151**	**721**	**2,278**	**2,440**	**1,842**
San Juan-Caguas-Guaynabo, PR	35	0	0	3	13	10	9

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

Table 64. Tuberculosis Cases, by Hispanic Ethnicity and Non-Hispanic Race: Metropolitan Statistical Areas with ≥500,000 Population, 2015

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	12	0	0	9	1	0	2	0	0
Albany-Schenectady-Troy, NY	6	0	0	3	1	0	1	0	1
Albuquerque, NM	14	7	1	1	0	0	5	0	0
Allentown-Bethlehem-Easton, PA-NJ	7	3	0	1	2	0	1	0	0
Atlanta-Sandy Springs-Roswell, GA	219	31	1	64	102	0	20	1	0
Augusta-Richmond County, GA-SC	14	2	0	5	5	0	2	0	0
Austin-Round Rock, TX	77	31	0	28	10	0	8	0	0
Bakersfield, CA	29	20	0	4	1	1	0	3	0
Baltimore-Columbia-Towson, MD	64	7	0	25	24	0	6	2	0
Baton Rouge, LA	23	3	0	4	7	0	6	2	1
Birmingham-Hoover, AL	30	3	0	1	18	0	7	1	0
Boise City, ID	8	1	0	2	1	0	2	0	2
Boston-Cambridge-Newton, MA-NH	149	26	0	69	31	0	14	6	3
Bridgeport-Stamford-Norwalk, CT	24	13	0	5	5	0	1	0	0
Buffalo-Cheektowaga-Niagara Falls, NY	17	0	0	8	2	0	3	0	4
Cape Coral-Fort Myers, FL	17	4	0	2	3	0	8	0	0
Charleston-North Charleston, SC	19	1	0	3	11	0	4	0	0
Charlotte-Concord-Gastonia, NC-SC	41	8	0	12	18	0	3	0	0
Chattanooga, TN-GA	10	1	0	1	1	0	7	0	0
Chicago-Naperville-Elgin, IL-IN-WI	304	87	0	129	48	1	39	0	0
Cincinnati, OH-KY-IN	21	3	0	11	0	0	7	0	0
Cleveland-Elyria, OH	39	2	0	9	15	0	13	0	0
Colorado Springs, CO	4	0	0	4	0	0	0	0	0
Columbia, SC	10	1	0	2	6	0	1	0	0
Columbus, OH	41	2	0	12	24	0	3	0	0
Dallas-Fort Worth-Arlington, TX	311	72	0	101	90	4	43	0	1
Dayton, OH	9	0	0	3	3	0	3	0	0
Deltona-Daytona Beach-Ormond Beach, FL	6	2	0	0	1	0	3	0	0
Denver-Aurora-Lakewood, CO	50	14	0	15	13	0	6	1	1
Des Moines-West Des Moines, IA	8	0	0	4	3	0	1	0	0
Detroit-Warren-Dearborn, MI	75	4	0	26	24	0	21	0	0
Durham-Chapel Hill, NC	9	0	0	3	5	0	1	0	0
El Paso, TX	38	34	0	0	1	0	3	0	0
Fayetteville-Springdale-Rogers, AR-MO	30	1	0	4	2	17	6	0	0
Fresno, CA	41	25	0	8	2	0	4	2	0
Grand Rapids-Wyoming, MI	20	3	0	11	5	0	1	0	0
Greensboro-High Point, NC	27	13	0	7	6	0	1	0	0
Greenville-Anderson-Maudlin, SC	11	1	0	1	3	1	5	0	0
Harrisburg-Carlisle, PA	11	2	0	4	1	0	3	1	0
Hartford-West Hartford-East Hartford, CT	25	3	0	12	5	0	5	0	0
Houston-The Woodlands-Sugar Land, TX	383	182	0	86	81	0	34	0	0
Indianapolis-Carmel-Anderson, IN	63	13	0	24	15	0	11	0	0
Jackson, MS	26	1	0	3	20	0	2	0	0
Jacksonville, FL	58	4	0	7	30	0	17	0	0
Kansas City, MO-KS	30	7	0	14	6	0	3	0	0
Knoxville, TN	8	1	0	1	0	0	5	1	0
Lakeland-Winter Haven, FL	26	7	0	3	3	0	13	0	0
Lancaster, PA	6	3	0	2	0	0	1	0	0
Las Vegas-Henderson-Paradise, NV	70	16	0	29	16	0	8	1	0
Lexington-Fayette, KY	17	4	0	0	3	0	10	0	0
Little Rock-North Little Rock-Conway, AR	21	5	0	5	7	0	4	0	0
Los Angeles-Long Beach-Anaheim, CA	805	298	0	391	45	3	44	22	2
Louisville-Jefferson County, KY-IN	31	5	0	7	10	1	8	0	0
Madison, WI	8	3	0	2	0	0	3	0	0
McAllen-Edinburg-Mission, TX	72	67	0	3	1	0	0	1	0
Memphis, TN-MS-AR	56	9	0	7	36	0	4	0	0
Miami-Fort Lauderdale-West Palm Beach, FL	250	97	0	30	102	0	20	1	0

Table 64. (Cont'd) Tuberculosis Cases, by Hispanic Ethnicity and Non-Hispanic Race: Metropolitan Statistical Areas with ≥500,000 Population, 2015

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
Milwaukee-Waukesha-West Allis, WI	31	9	0	14	6	0	2	0	0
Minneapolis-St. Paul-Bloomington, MN-WI	114	9	2	30	67	0	6	0	0
Modesto, CA	18	9	0	5	0	0	2	2	0
Nashville-Davidson-Murfreesboro-Franklin, TN	46	4	0	10	16	0	16	0	0
New Haven-Milford, CT	18	4	0	7	6	0	1	0	0
New Orleans-Metairie, LA	35	9	0	8	9	0	8	1	0
New York-Newark-Jersey City, NY-NJ-PA	943	272	0	408	182	1	68	7	5
Northport-Sarasota-Bradenton, FL	16	5	0	2	3	0	6	0	0
Ogden-Clearfield, UT	2	1	0	1	0	0	0	0	0
Oklahoma City, OK	25	3	2	7	3	0	8	2	0
Omaha-Council Bluffs, NE-IA	18	4	0	5	4	0	3	2	0
Orlando-Kissimmee-Sanford, FL	68	17	0	12	26	0	13	0	0
Oxnard-Thousand Oaks-Ventura, CA	24	10	0	8	0	0	6	0	0
Palm Bay-Melbourne-Titusville, FL	12	1	0	1	5	0	5	0	0
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	163	19	0	71	56	0	15	2	0
Phoenix-Mesa-Scottsdale, AZ	127	63	4	30	15	1	14	0	0
Pittsburgh, PA	15	1	0	4	2	0	8	0	0
Portland-South Portland, ME	9	0	0	2	5	0	2	0	0
Portland-Vancouver-Hillsboro, OR-WA	57	10	1	30	4	1	11	0	0
Providence-Warwick, RI-MA	36	14	0	9	3	0	9	1	0
Provo-Orem, UT	2	1	0	0	0	1	0	0	0
Raleigh, NC	30	1	0	14	10	0	5	0	0
Richmond, VA	14	1	0	6	4	0	3	0	0
Riverside-San Bernardino-Ontario, CA	121	66	0	41	7	0	6	1	0
Rochester, NY	19	6	0	8	3	0	2	0	0
Sacramento-Roseville-Arden-Arcade, CA	91	11	0	60	4	0	5	11	0
St. Louis, MO-IL	40	1	0	15	12	1	11	0	0
Salt Lake City, UT	31	15	0	9	4	0	3	0	0
San Antonio-New Braunfels, TX	89	65	1	9	3	0	11	0	0
San Diego-Carlsbad, CA	234	124	0	84	4	2	17	3	0
San Francisco-Oakland-Hayward, CA	353	60	0	212	25	3	28	25	0
San Jose-Sunnyvale-Santa Clara, CA	199	21	0	127	4	1	6	40	0
Santa Rosa, CA	9	6	0	2	0	0	0	1	0
Scranton-Wilkes-Barre-Hazleton, PA	6	0	0	3	2	0	1	0	0
Seattle-Tacoma-Bellevue, WA	143	9	3	80	32	9	10	0	0
Spokane-Spokane Valley, WA	2	0	0	2	0	0	0	0	0
Springfield, MA	8	3	0	2	2	0	1	0	0
Stockton-Lodi, CA	58	22	0	26	2	0	5	3	0
Syracuse, NY	10	0	0	6	3	0	1	0	0
Tampa-St. Petersburg-Clearwater, FL	63	12	0	18	20	1	12	0	0
Toledo, OH	9	0	0	4	2	1	2	0	0
Tucson, AZ	36	12	1	10	4	0	9	0	0
Tulsa, OK	17	3	0	5	3	0	4	2	0
Urban Honolulu, HI	98	0	0	66	0	28	2	2	0
Virginia Beach-Norfolk-Newport News, VA-NC	34	7	0	17	8	0	2	0	0
Washington-Arlington-Alexandria, DC-VA-MD-WV	271	65	0	89	95	1	21	0	0
Wichita, KS	14	3	0	4	2	1	4	0	0
Winston-Salem, NC	10	5	0	1	3	0	1	0	0
Worcester, MA-CT	28	5	0	9	12	0	1	1	0
Youngstown-Warren-Boardman, OH-PA	2	0	0	0	1	0	1	0	0
Total - 107 areas	**7,618**	**2,140**	**16**	**2,820**	**1,558**	**80**	**833**	**151**	**20**
San Juan-Caguas-Guaynabo, PR	35	34	0	1	0	0	0	0	0

[1]Persons of Hispanic/Latino origin may be of any or multiple race.
[2]Indicates 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 area and Hispanic ethnicity and non-Hispanic race.

Table 65. Tuberculosis Cases and Percentages, U.S.-Born Persons and Foreign-Born Persons[1]: Metropolitan Statistical Areas with ≥500,000 Population, 2015

Metropolitan statistical area	Total cases	U.S.-born persons		Foreign-born persons		Unknown	
		No.	(%)	No.	(%)	No.	(%)
Akron, OH	12	3	(25.0)	9	(75.0)	0	(0)
Albany-Schenectady-Troy, NY	6	1	(16.7)	5	(83.3)	0	(0)
Albuquerque, NM	14	6	(42.9)	8	(57.1)	0	(0)
Allentown-Bethlehem-Easton, PA-NJ	7	3	(42.9)	4	(57.1)	0	(0)
Atlanta-Sandy Springs-Roswell, GA	219	103	(47.0)	116	(53.0)	0	(0)
Augusta-Richmond County, GA-SC	14	8	(57.1)	6	(42.9)	0	(0)
Austin-Round Rock, TX	77	18	(23.4)	59	(76.6)	0	(0)
Bakersfield, CA	29	5	(17.2)	24	(82.8)	0	(0)
Baltimore-Columbia-Towson, MD	64	22	(34.4)	42	(65.6)	0	(0)
Baton Rouge, LA	23	16	(69.6)	7	(30.4)	0	(0)
Birmingham-Hoover, AL	30	25	(83.3)	5	(16.7)	0	(0)
Boise City, ID	8	0	(0)	7	(87.5)	1	(12.5)
Boston-Cambridge-Newton, MA-NH	149	16	(10.7)	129	(86.6)	4	(2.7)
Bridgeport-Stamford-Norwalk, CT	24	2	(8.3)	22	(91.7)	0	(0)
Buffalo-Cheektowaga-Niagara Falls, NY	17	6	(35.3)	11	(64.7)	0	(0)
Cape Coral-Fort Myers, FL	17	9	(52.9)	8	(47.1)	0	(0)
Charleston-North Charleston, SC	19	15	(78.9)	4	(21.1)	0	(0)
Charlotte-Concord-Gastonia, NC-SC	41	17	(41.5)	24	(58.5)	0	(0)
Chattanooga, TN-GA	10	8	(80.0)	2	(20.0)	0	(0)
Chicago-Naperville-Elgin, IL-IN-WI	304	80	(26.3)	224	(73.7)	0	(0)
Cincinnati, OH-KY-IN	21	7	(33.3)	14	(66.7)	0	(0)
Cleveland-Elyria, OH	39	27	(69.2)	12	(30.8)	0	(0)
Colorado Springs, CO	4	0	(0)	4	(100.0)	0	(0)
Columbia, SC	10	7	(70.0)	3	(30.0)	0	(0)
Columbus, OH	41	3	(7.3)	38	(92.7)	0	(0)
Dallas-Fort Worth-Arlington, TX	311	134	(43.1)	177	(56.9)	0	(0)
Dayton, OH	9	2	(22.2)	7	(77.8)	0	(0)
Deltona-Daytona Beach-Ormond Beach, FL	6	4	(66.7)	2	(33.3)	0	(0)
Denver-Aurora-Lakewood, CO	50	8	(16.0)	42	(84.0)	0	(0)
Des Moines-West Des Moines, IA	8	1	(12.5)	7	(87.5)	0	(0)
Detroit-Warren-Dearborn, MI	75	27	(36.0)	48	(64.0)	0	(0)
Durham-Chapel Hill, NC	9	4	(44.4)	5	(55.6)	0	(0)
El Paso, TX	38	14	(36.8)	24	(63.2)	0	(0)
Fayetteville-Springdale-Rogers, AR-MO	30	24	(80.0)	6	(20.0)	0	(0)
Fresno, CA	41	17	(41.5)	24	(58.5)	0	(0)
Grand Rapids-Wyoming, MI	20	4	(20.0)	16	(80.0)	0	(0)
Greensboro-High Point, NC	27	7	(25.9)	20	(74.1)	0	(0)
Greenville-Anderson-Maudlin, SC	11	9	(81.8)	2	(18.2)	0	(0)
Harrisburg-Carlisle, PA	11	4	(36.4)	7	(63.6)	0	(0)
Hartford-West Hartford-East Hartford, CT	25	7	(28.0)	18	(72.0)	0	(0)
Houston-The Woodlands-Sugar Land, TX	383	152	(39.7)	231	(60.3)	0	(0)
Indianapolis-Carmel-Anderson, IN	63	21	(33.3)	42	(66.7)	0	(0)
Jackson, MS	26	21	(80.8)	5	(19.2)	0	(0)
Jacksonville, FL	58	45	(77.6)	13	(22.4)	0	(0)
Kansas City, MO-KS	30	6	(20.0)	24	(80.0)	0	(0)
Knoxville, TN	8	5	(62.5)	3	(37.5)	0	(0)
Lakeland-Winter Haven, FL	26	14	(53.8)	12	(46.2)	0	(0)
Lancaster, PA	6	1	(16.7)	5	(83.3)	0	(0)
Las Vegas-Henderson-Paradise, NV	70	21	(30.0)	49	(70.0)	0	(0)
Lexington-Fayette, KY	17	11	(64.7)	6	(35.3)	0	(0)
Little Rock-North Little Rock-Conway, AR	21	12	(57.1)	9	(42.9)	0	(0)
Los Angeles-Long Beach-Anaheim, CA	805	134	(16.6)	667	(82.9)	4	(0.5)
Louisville-Jefferson County, KY-IN	31	14	(45.2)	17	(54.8)	0	(0)
Madison, WI	8	1	(12.5)	7	(87.5)	0	(0)
McAllen-Edinburg-Mission, TX	72	23	(31.9)	49	(68.1)	0	(0)
Memphis, TN-MS-AR	56	36	(64.3)	20	(35.7)	0	(0)
Miami-Fort Lauderdale-West Palm Beach, FL	250	63	(25.2)	187	(74.8)	0	(0)

Table 65. (Cont'd) Tuberculosis Cases and Percentages, U.S.-Born Persons and Foreign-Born Persons[1]: Metropolitan Statistical Areas with ≥500,000 Population, 2015

Metropolitan statistical area	Total cases	U.S.-born persons		Foreign-born persons		Unknown	
		No.	(%)	No.	(%)	No.	(%)
Milwaukee-Waukesha-West Allis, WI	31	7	(22.6)	24	(77.4)	0	(0)
Minneapolis-St. Paul-Bloomington, MN-WI	114	15	(13.2)	99	(86.8)	0	(0)
Modesto, CA	18	5	(27.8)	13	(72.2)	0	(0)
Nashville-Davidson-Murfreesboro-Franklin, TN	46	16	(34.8)	30	(65.2)	0	(0)
New Haven-Milford, CT	18	4	(22.2)	14	(77.8)	0	(0)
New Orleans-Metairie, LA	35	17	(48.6)	18	(51.4)	0	(0)
New York-Newark-Jersey City, NY-NJ-PA	943	165	(17.5)	777	(82.4)	1	(0.1)
Northport-Sarasota-Bradenton, FL	16	8	(50.0)	8	(50.0)	0	(0)
Ogden-Clearfield, UT	2	1	(50.0)	1	(50.0)	0	(0)
Oklahoma City, OK	25	15	(60.0)	10	(40.0)	0	(0)
Omaha-Council Bluffs, NE-IA	18	3	(16.7)	15	(83.3)	0	(0)
Orlando-Kissimmee-Sanford, FL	68	32	(47.1)	36	(52.9)	0	(0)
Oxnard-Thousand Oaks-Ventura, CA	24	9	(37.5)	15	(62.5)	0	(0)
Palm Bay-Melbourne-Titusville, FL	12	10	(83.3)	2	(16.7)	0	(0)
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	163	54	(33.1)	108	(66.3)	1	(0.6)
Phoenix-Mesa-Scottsdale, AZ	127	28	(22.0)	99	(78.0)	0	(0)
Pittsburgh, PA	15	7	(46.7)	8	(53.3)	0	(0)
Portland-South Portland, ME	9	2	(22.2)	7	(77.8)	0	(0)
Portland-Vancouver-Hillsboro, OR-WA	57	15	(26.3)	42	(73.7)	0	(0)
Providence-Warwick, RI-MA	36	6	(16.7)	30	(83.3)	0	(0)
Provo-Orem, UT	2	0	(0)	2	(100.0)	0	(0)
Raleigh, NC	30	10	(33.3)	20	(66.7)	0	(0)
Richmond, VA	14	7	(50.0)	7	(50.0)	0	(0)
Riverside-San Bernardino-Ontario, CA	121	28	(23.1)	91	(75.2)	2	(1.7)
Rochester, NY	19	6	(31.6)	13	(68.4)	0	(0)
Sacramento-Roseville-Arden-Arcade, CA	91	17	(18.7)	73	(80.2)	1	(1.1)
St. Louis, MO-IL	40	16	(40.0)	24	(60.0)	0	(0)
Salt Lake City, UT	31	6	(19.4)	25	(80.6)	0	(0)
San Antonio-New Braunfels, TX	89	42	(47.2)	47	(52.8)	0	(0)
San Diego-Carlsbad, CA	234	61	(26.1)	173	(73.9)	0	(0)
San Francisco-Oakland-Hayward, CA	353	51	(14.4)	302	(85.6)	0	(0)
San Jose-Sunnyvale-Santa Clara, CA	199	9	(4.5)	189	(95.0)	1	(0.5)
Santa Rosa, CA	9	2	(22.2)	7	(77.8)	0	(0)
Scranton--Wilkes-Barre-Hazleton, PA	6	3	(50.0)	3	(50.0)	0	(0)
Seattle-Tacoma-Bellevue, WA	143	29	(20.3)	114	(79.7)	0	(0)
Spokane-Spokane Valley, WA	2	0	(0)	2	(100.0)	0	(0)
Springfield, MA	8	4	(50.0)	4	(50.0)	0	(0)
Stockton-Lodi, CA	58	23	(39.7)	34	(58.6)	1	(1.7)
Syracuse, NY	10	2	(20.0)	8	(80.0)	0	(0)
Tampa-St. Petersburg-Clearwater, FL	63	29	(46.0)	34	(54.0)	0	(0)
Toledo, OH	9	2	(22.2)	7	(77.8)	0	(0)
Tucson, AZ	36	15	(41.7)	21	(58.3)	0	(0)
Tulsa, OK	17	9	(52.9)	8	(47.1)	0	(0)
Urban Honolulu, HI	98	37	(37.8)	61	(62.2)	0	(0)
Virginia Beach-Norfolk-Newport News, VA-NC	34	10	(29.4)	24	(70.6)	0	(0)
Washington-Arlington-Alexandria, DC-VA-MD-WV	271	41	(15.1)	230	(84.9)	0	(0)
Wichita, KS	14	6	(42.9)	8	(57.1)	0	(0)
Winston-Salem, NC	10	6	(60.0)	4	(40.0)	0	(0)
Worcester, MA-CT	28	2	(7.1)	26	(92.9)	0	(0)
Youngstown-Warren-Boardman, OH-PA	2	2	(100.0)	0	(0)	0	(0)
Total - 107 areas	**7,618**	**2,147**	**(28.2)**	**5,455**	**(71.6)**	**16**	**(0.2)**
San Juan-Caguas-Guaynabo, PR	35	29	(82.9)	6	(17.1)	0	(0)

[1]Includes persons born outside of the United States (including the U.S. insular areas) and the sovereign freely associated states (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau).
Note: See Technical Notes for definition of metropolitan statistical area.

Table 66. Tuberculosis Cases and Percentages, by Homeless Status,[1] Ages ≥15 Years: Metropolitan Statistical Areas with ≥500,000 Population, 2015

Metropolitan statistical area	Total cases	Cases with information on homeless status		Cases reported as being homeless[2]	
		No.	(%)	No.	(%)
Akron, OH	11	11	(100.0)	1	(9.1)
Albany-Schenectady-Troy, NY	6	6	(100.0)	1	(16.7)
Albuquerque, NM	14	14	(100.0)	2	(14.3)
Allentown-Bethlehem-Easton, PA-NJ	7	7	(100.0)	1	(14.3)
Atlanta-Sandy Springs-Roswell, GA	206	205	(99.5)	25	(12.1)
Augusta-Richmond County, GA-SC	14	14	(100.0)	0	(0)
Austin-Round Rock, TX	74	74	(100.0)	9	(12.2)
Bakersfield, CA	29	27	(93.1)	2	(6.9)
Baltimore-Columbia-Towson, MD	61	61	(100.0)	4	(6.6)
Baton Rouge, LA	23	23	(100.0)	3	(13.0)
Birmingham-Hoover, AL	30	30	(100.0)	3	(10.0)
Boise City, ID	6	6	(100.0)	0	(0)
Boston-Cambridge-Newton, MA-NH	145	144	(99.3)	3	(2.1)
Bridgeport-Stamford-Norwalk, CT	24	24	(100.0)	0	(0)
Buffalo-Cheektowaga-Niagara Falls, NY	15	15	(100.0)	0	(0)
Cape Coral-Fort Myers, FL	16	15	(93.8)	1	(6.3)
Charleston-North Charleston, SC	17	17	(100.0)	0	(0)
Charlotte-Concord-Gastonia, NC-SC	40	40	(100.0)	2	(5.0)
Chattanooga, TN-GA	9	9	(100.0)	0	(0)
Chicago-Naperville-Elgin, IL-IN-WI	292	290	(99.3)	10	(3.4)
Cincinnati, OH-KY-IN	21	21	(100.0)	1	(4.8)
Cleveland-Elyria, OH	37	37	(100.0)	2	(5.4)
Colorado Springs, CO	4	4	(100.0)	0	(0)
Columbia, SC	9	9	(100.0)	1	(11.1)
Columbus, OH	40	40	(100.0)	2	(5.0)
Dallas-Fort Worth-Arlington, TX	297	297	(100.0)	37	(12.5)
Dayton, OH	9	9	(100.0)	0	(0)
Deltona-Daytona Beach-Ormond Beach, FL	6	5	(83.3)	0	(0)
Denver-Aurora-Lakewood, CO	45	45	(100.0)	1	(2.2)
Des Moines-West Des Moines, IA	7	7	(100.0)	0	(0)
Detroit-Warren-Dearborn, MI	73	73	(100.0)	4	(5.5)
Durham-Chapel Hill, NC	9	9	(100.0)	0	(0)
El Paso, TX	35	35	(100.0)	0	(0)
Fayetteville-Springdale-Rogers, AR-MO	21	21	(100.0)	0	(0)
Fresno, CA	38	38	(100.0)	5	(13.2)
Grand Rapids-Wyoming, MI	19	19	(100.0)	1	(5.3)
Greensboro-High Point, NC	24	24	(100.0)	0	(0)
Greenville-Anderson-Maudlin, SC	11	11	(100.0)	0	(0)
Harrisburg-Carlisle, PA	10	10	(100.0)	0	(0)
Hartford-West Hartford-East Hartford, CT	25	25	(100.0)	1	(4.0)
Houston-The Woodlands-Sugar Land, TX	354	354	(100.0)	28	(7.9)
Indianapolis-Carmel-Anderson, IN	60	60	(100.0)	5	(8.3)
Jackson, MS	25	25	(100.0)	3	(12.0)
Jacksonville, FL	52	52	(100.0)	10	(19.2)
Kansas City, MO-KS	28	28	(100.0)	2	(7.1)
Knoxville, TN	8	8	(100.0)	1	(12.5)
Lakeland-Winter Haven, FL	26	26	(100.0)	1	(3.8)
Lancaster, PA	6	6	(100.0)	0	(0)
Las Vegas-Henderson-Paradise, NV	70	70	(100.0)	5	(7.1)
Lexington-Fayette, KY	16	16	(100.0)	4	(25.0)
Little Rock-North Little Rock-Conway, AR	21	21	(100.0)	4	(19.0)
Los Angeles-Long Beach-Anaheim, CA	791	787	(99.5)	50	(6.3)
Louisville-Jefferson County, KY-IN	29	29	(100.0)	1	(3.4)
Madison, WI	8	8	(100.0)	0	(0)
McAllen-Edinburg-Mission, TX	64	64	(100.0)	3	(4.7)
Memphis, TN-MS-AR	52	52	(100.0)	7	(13.5)
Miami-Fort Lauderdale-West Palm Beach, FL	240	240	(100.0)	15	(6.3)

Table 66. (Cont'd) Tuberculosis Cases and Percentages, by Homeless Status,[1] Ages ≥15 Years: Metropolitan Statistical Areas with ≥500,000 Population, 2015

Metropolitan statistical area	Total cases	Cases with information on homeless status		Cases reported as being homeless[2]	
		No.	(%)	No.	(%)
Milwaukee-Waukesha-West Allis, WI	30	30	(100.0)	0	(0)
Minneapolis-St. Paul-Bloomington, MN-WI	104	104	(100.0)	5	(4.8)
Modesto, CA	16	16	(100.0)	0	(0)
Nashville-Davidson-Murfreesboro-Franklin, TN	44	44	(100.0)	1	(2.3)
New Haven-Milford, CT	18	18	(100.0)	0	(0)
New Orleans-Metairie, LA	34	33	(97.1)	1	(2.9)
New York-Newark-Jersey City, NY-NJ-PA	915	913	(99.8)	30	(3.3)
Northport-Sarasota-Bradenton, FL	16	14	(87.5)	0	(0)
Ogden-Clearfield, UT	2	2	(100.0)	1	(50.0)
Oklahoma City, OK	24	24	(100.0)	1	(4.2)
Omaha-Council Bluffs, NE-IA	17	16	(94.1)	0	(0)
Orlando-Kissimmee-Sanford, FL	68	68	(100.0)	7	(10.3)
Oxnard-Thousand Oaks-Ventura, CA	23	23	(100.0)	1	(4.3)
Palm Bay-Melbourne-Titusville, FL	12	12	(100.0)	0	(0)
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	159	158	(99.4)	4	(2.5)
Phoenix-Mesa-Scottsdale, AZ	117	107	(91.5)	6	(5.1)
Pittsburgh, PA	14	14	(100.0)	0	(0)
Portland-South Portland, ME	9	9	(100.0)	0	(0)
Portland-Vancouver-Hillsboro, OR-WA	54	54	(100.0)	4	(7.4)
Providence-Warwick, RI-MA	35	34	(97.1)	1	(2.9)
Provo-Orem, UT	2	2	(100.0)	0	(0)
Raleigh, NC	30	30	(100.0)	1	(3.3)
Richmond, VA	13	13	(100.0)	0	(0)
Riverside-San Bernardino-Ontario, CA	113	113	(100.0)	5	(4.4)
Rochester, NY	12	12	(100.0)	1	(8.3)
Sacramento-Roseville-Arden-Arcade, CA	87	87	(100.0)	0	(0)
St. Louis, MO-IL	36	35	(97.2)	2	(5.6)
Salt Lake City, UT	25	25	(100.0)	1	(4.0)
San Antonio-New Braunfels, TX	87	87	(100.0)	2	(2.3)
San Diego-Carlsbad, CA	223	223	(100.0)	18	(8.1)
San Francisco-Oakland-Hayward, CA	347	347	(100.0)	13	(3.7)
San Jose-Sunnyvale-Santa Clara, CA	198	197	(99.5)	2	(1.0)
Santa Rosa, CA	9	9	(100.0)	1	(11.1)
Scranton-Wilkes-Barre-Hazleton, PA	6	6	(100.0)	1	(16.7)
Seattle-Tacoma-Bellevue, WA	134	130	(97.0)	2	(1.5)
Spokane-Spokane Valley, WA	2	2	(100.0)	0	(0)
Springfield, MA	8	8	(100.0)	2	(25.0)
Stockton-Lodi, CA	54	54	(100.0)	4	(7.4)
Syracuse, NY	9	9	(100.0)	0	(0)
Tampa-St. Petersburg-Clearwater, FL	60	60	(100.0)	8	(13.3)
Toledo, OH	8	8	(100.0)	0	(0)
Tucson, AZ	32	31	(96.9)	1	(3.1)
Tulsa, OK	14	14	(100.0)	1	(7.1)
Urban Honolulu, HI	92	92	(100.0)	2	(2.2)
Virginia Beach-Norfolk-Newport News, VA-NC	31	31	(100.0)	1	(3.2)
Washington-Arlington-Alexandria, DC-VA-MD-WV	259	258	(99.6)	4	(1.5)
Wichita, KS	14	14	(100.0)	3	(21.4)
Winston-Salem, NC	8	8	(100.0)	0	(0)
Worcester, MA-CT	26	26	(100.0)	0	(0)
Youngstown-Warren-Boardman, OH-PA	2	2	(100.0)	0	(0)
Total - 107 areas	**7,281**	**7,243**	**(99.5)**	**398**	**(5.5)**
San Juan-Caguas-Guaynabo, PR	35	35	(100.0)	1	(2.9)

[1]Homeless within past 12 months of TB diagnosis.
[2]Percent of those with known status.
Note: See Technical Notes for definition of metropolitan statistical area.

Surveillance Slide Set 2015

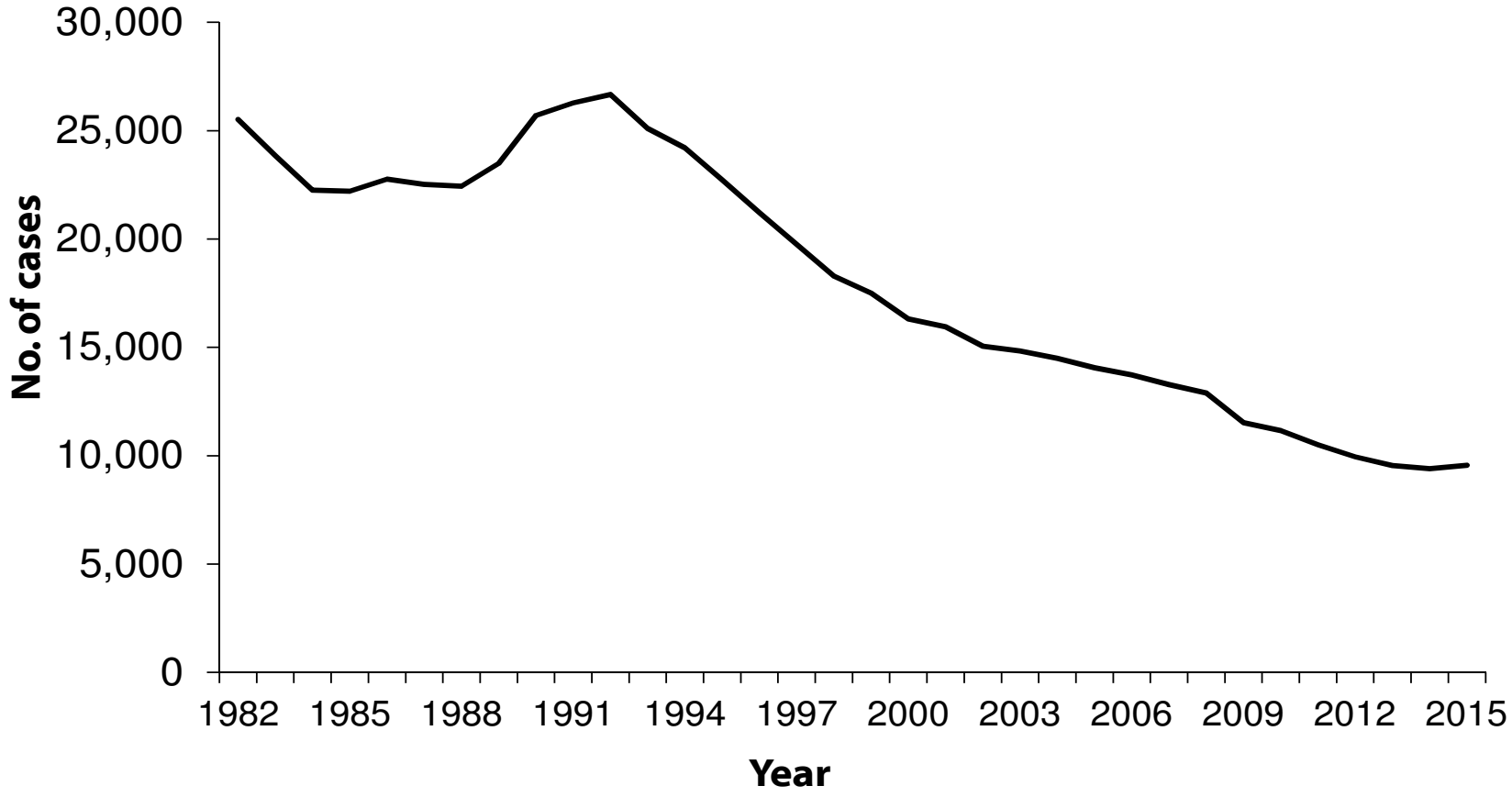
Surveillance Slide #1

Tuberculosis in the United States

National Tuberculosis Surveillance System
Highlights from 2015

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

Reported Tuberculosis (TB) Cases United States, 1982–2015*



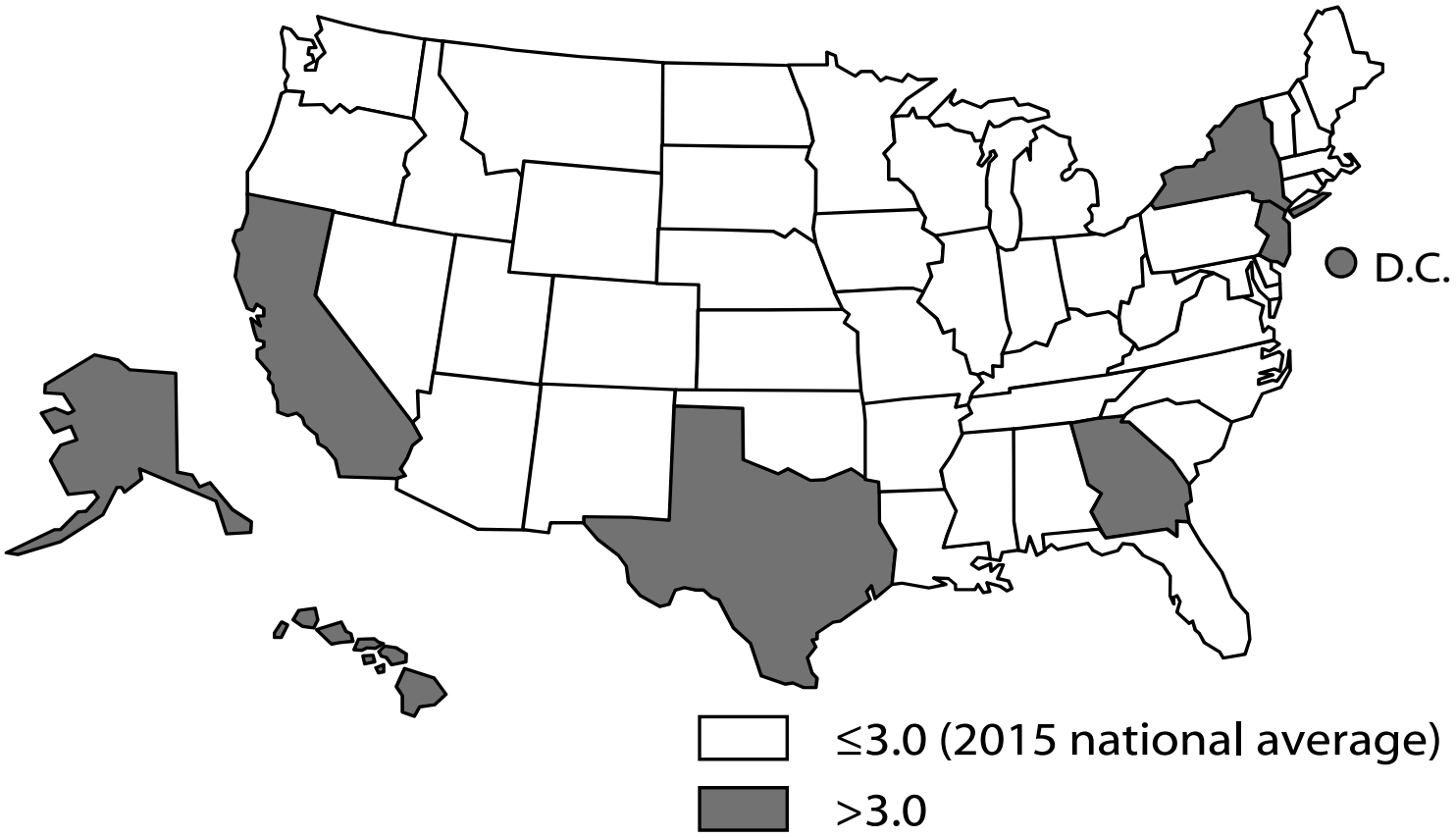
*As of June 9, 2016.

TB Morbidity United States, 2010–2015

Year	No.	Rate*
2010	11,159	3.6
2011	10,510	3.4
2012	9,942	3.2
2013	9,550	3.0
2014	9,406	2.9
2015	9,557	3.0

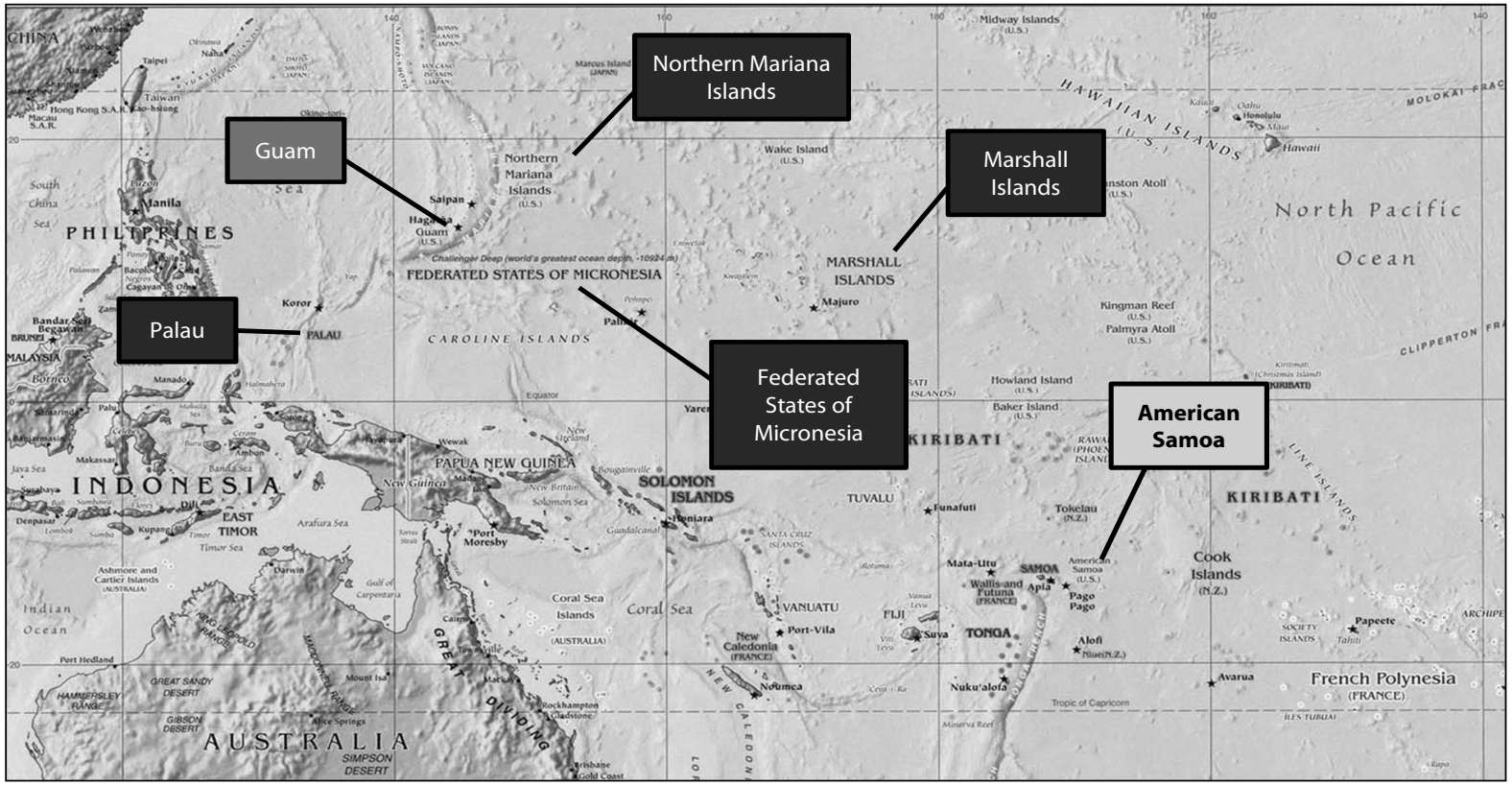
* Cases per 100,000 population; as of June 9, 2016.

TB Case Rates,* United States, 2015



*Cases per 100,000 population; as of June 9, 2016.

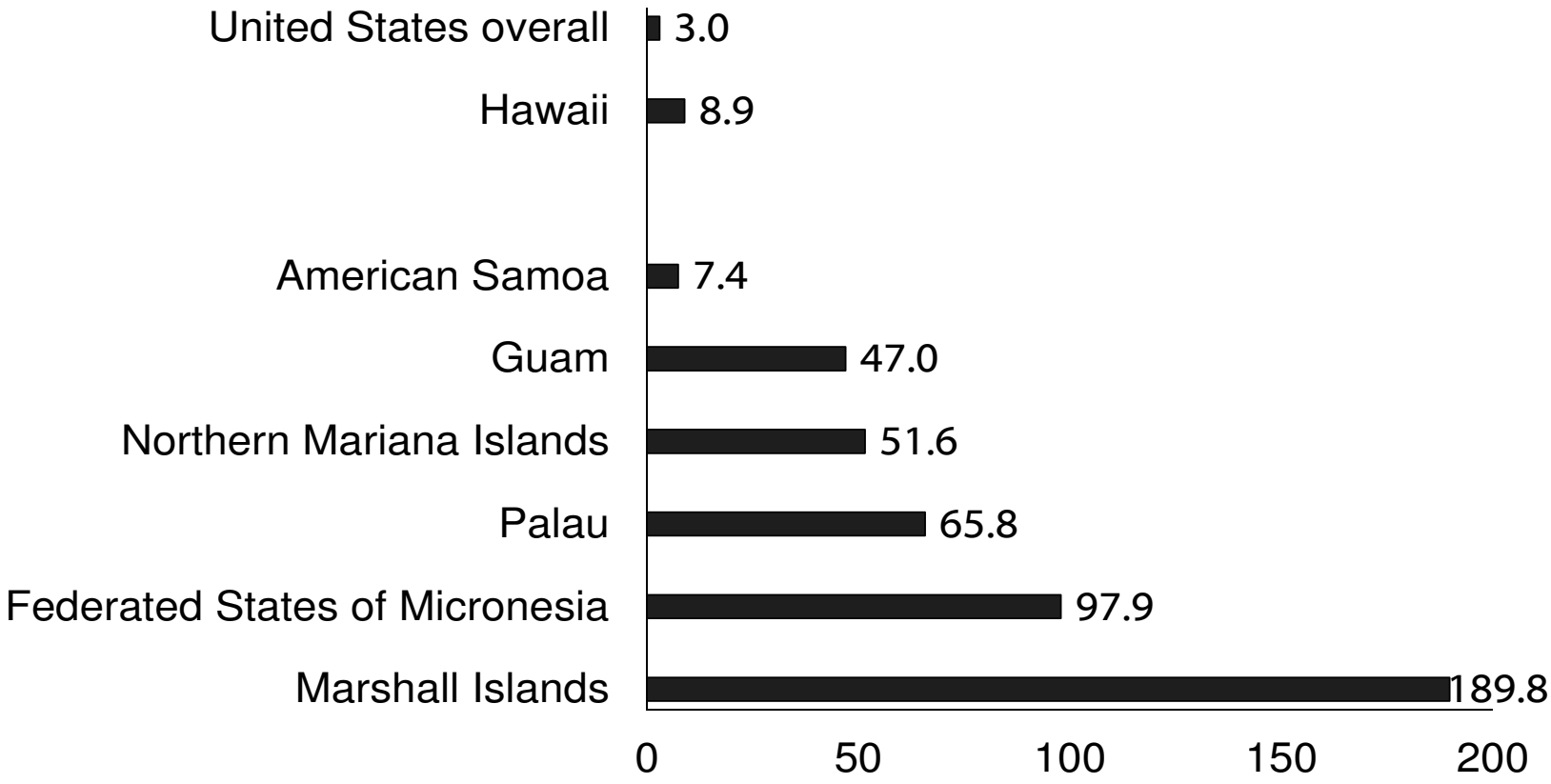
Map of U.S.-Affiliated Pacific Islands, by TB Case Rates,* 2015



≤9.9 10–49.9 ≥50

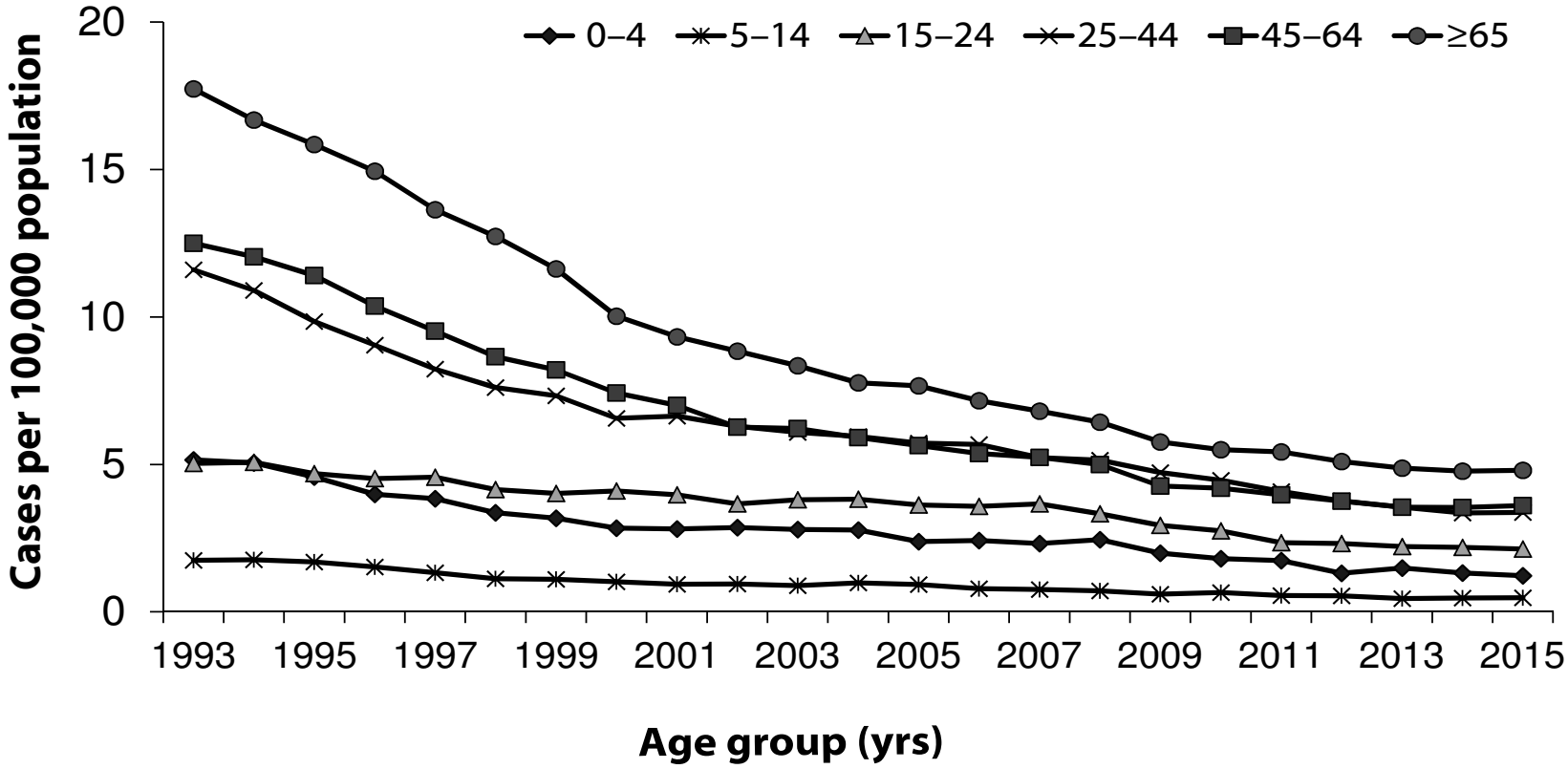
* Cases per 100,000 population; as of June 9, 2016.

TB Case Rates,* U.S.-Affiliated Pacific Islands, 2015



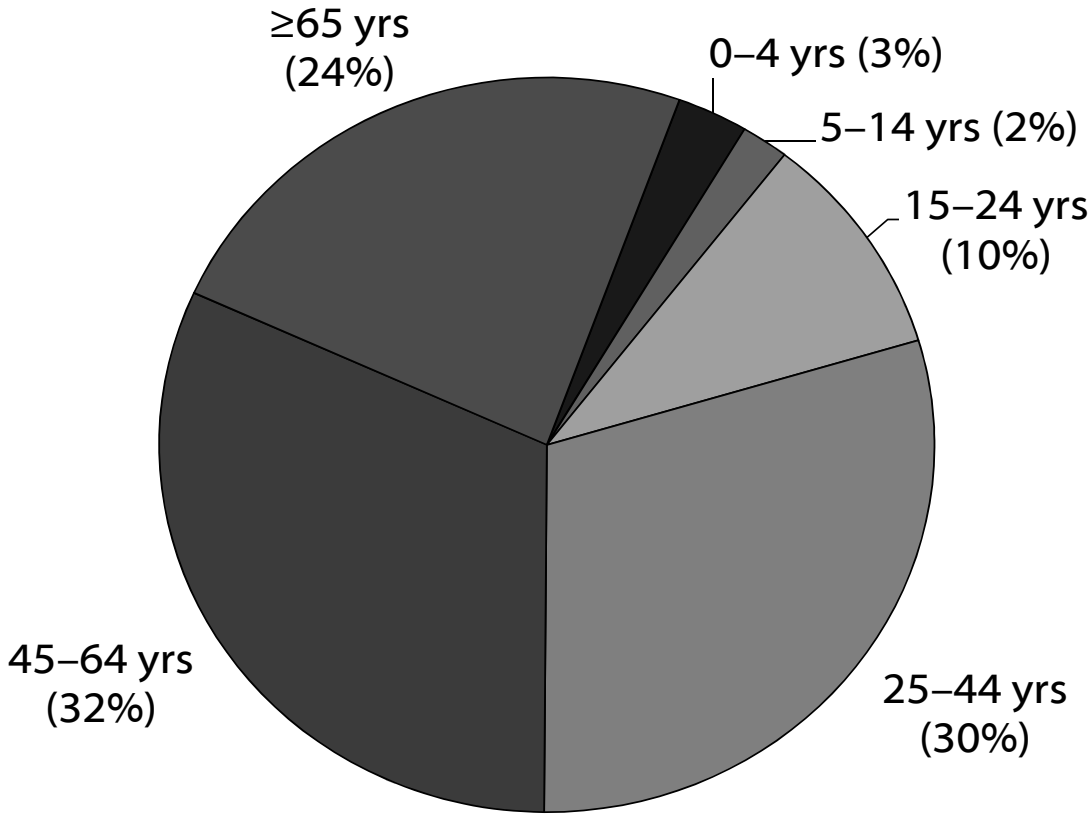
* Cases per 100,000 population; as of June 9, 2016.

TB Case Rates,* by Age Group, United States, 1993–2015



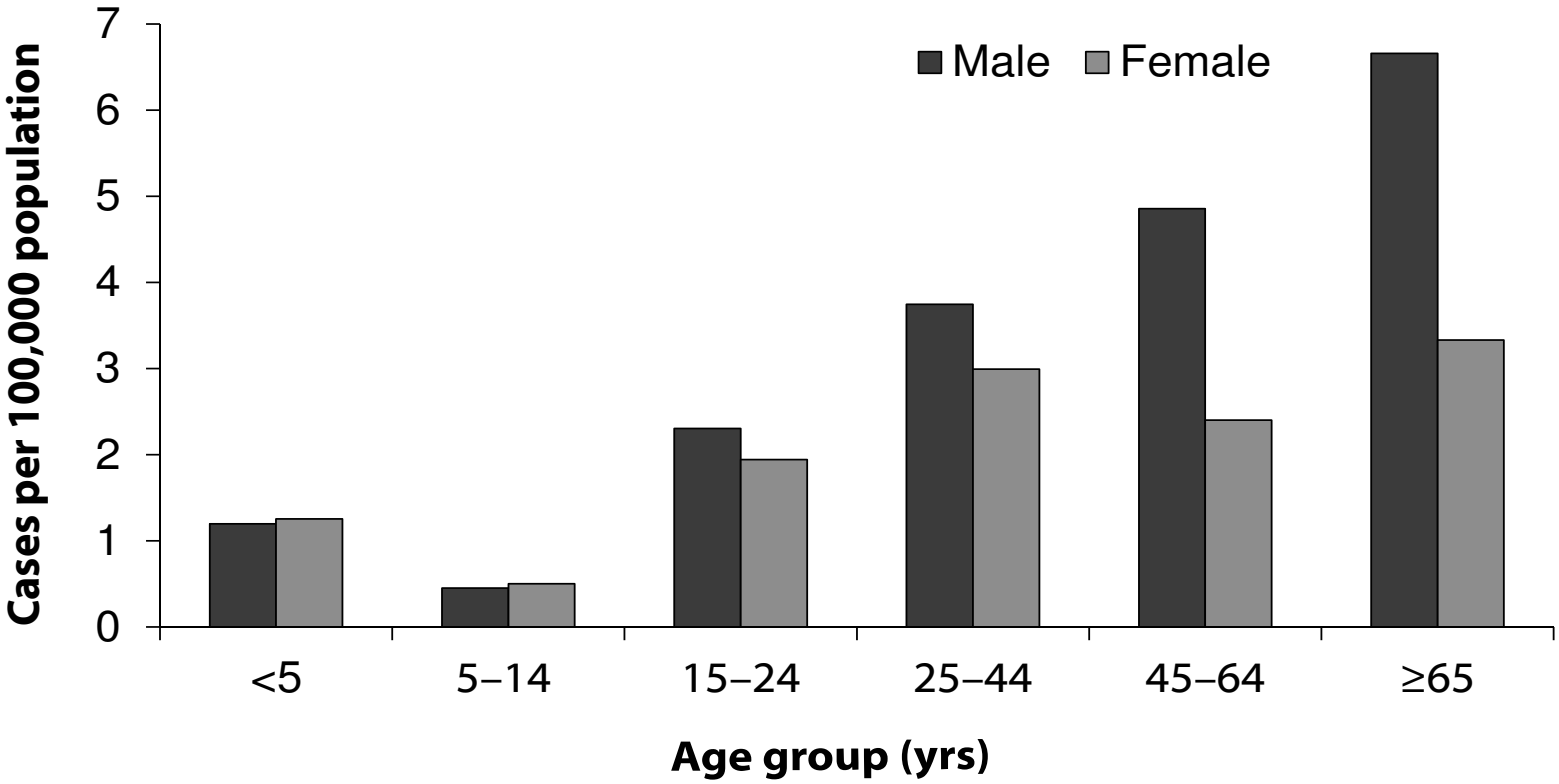
* As of June 9, 2016.

Reported TB Cases, by Age Group, United States, 2015*



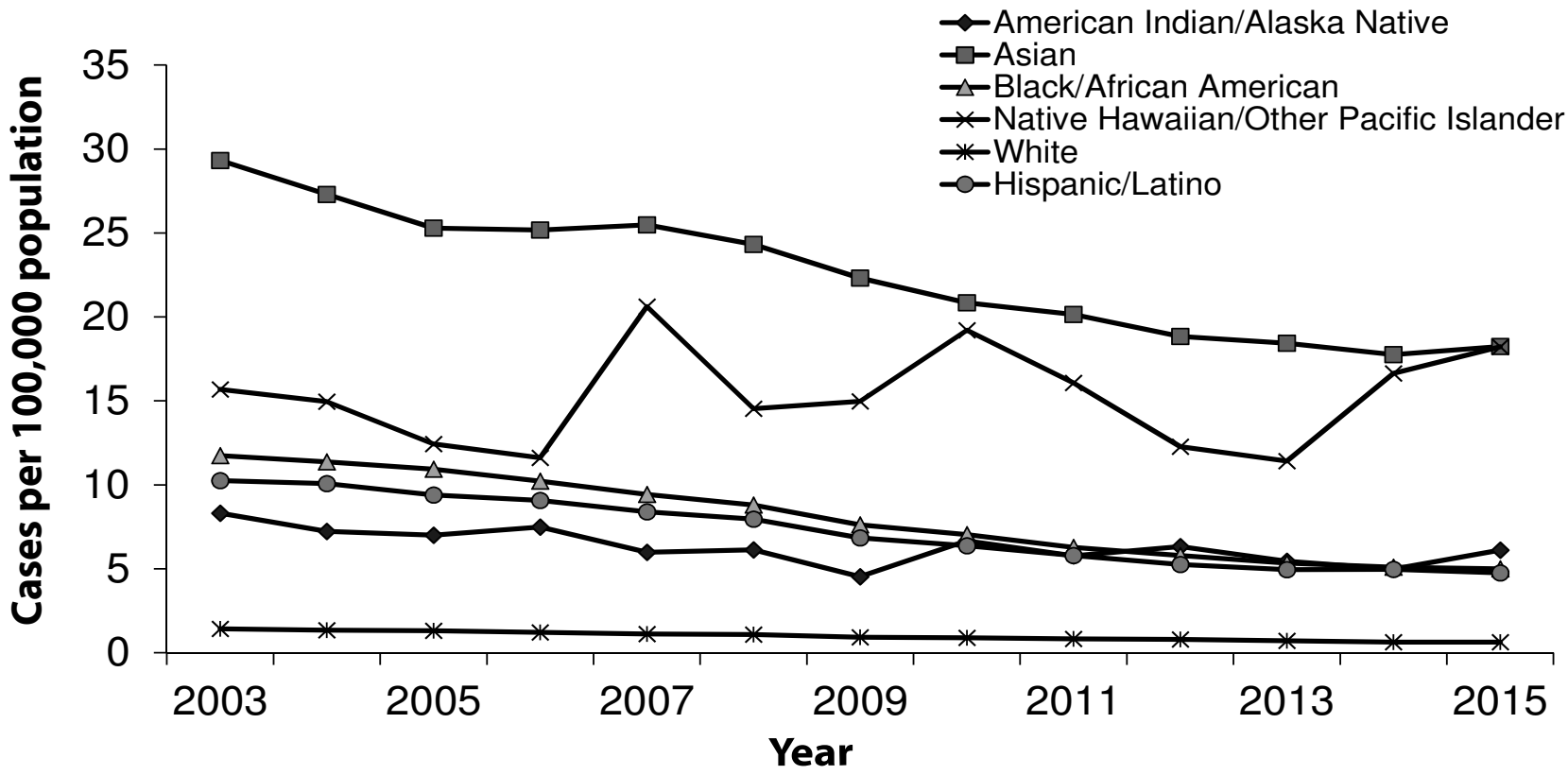
* As of June 9, 2016.

TB Case Rates, by Age Group and Sex, United States, 2015*



* As of June 9, 2016.

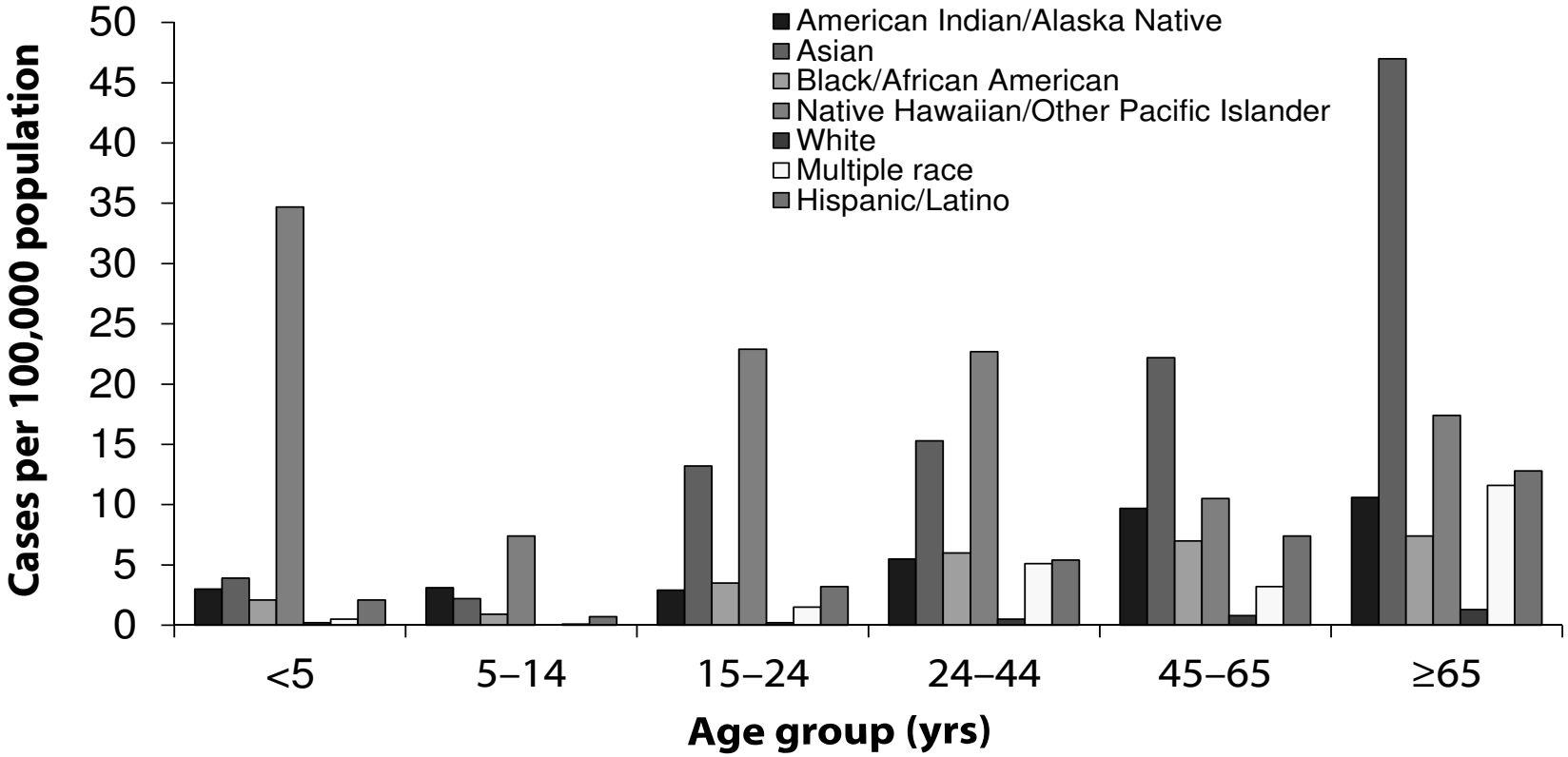
TB Case Rates by Race/Ethnicity,* United States, 2003–2015†



* All races are non-Hispanic.

† As of June 9, 2016.

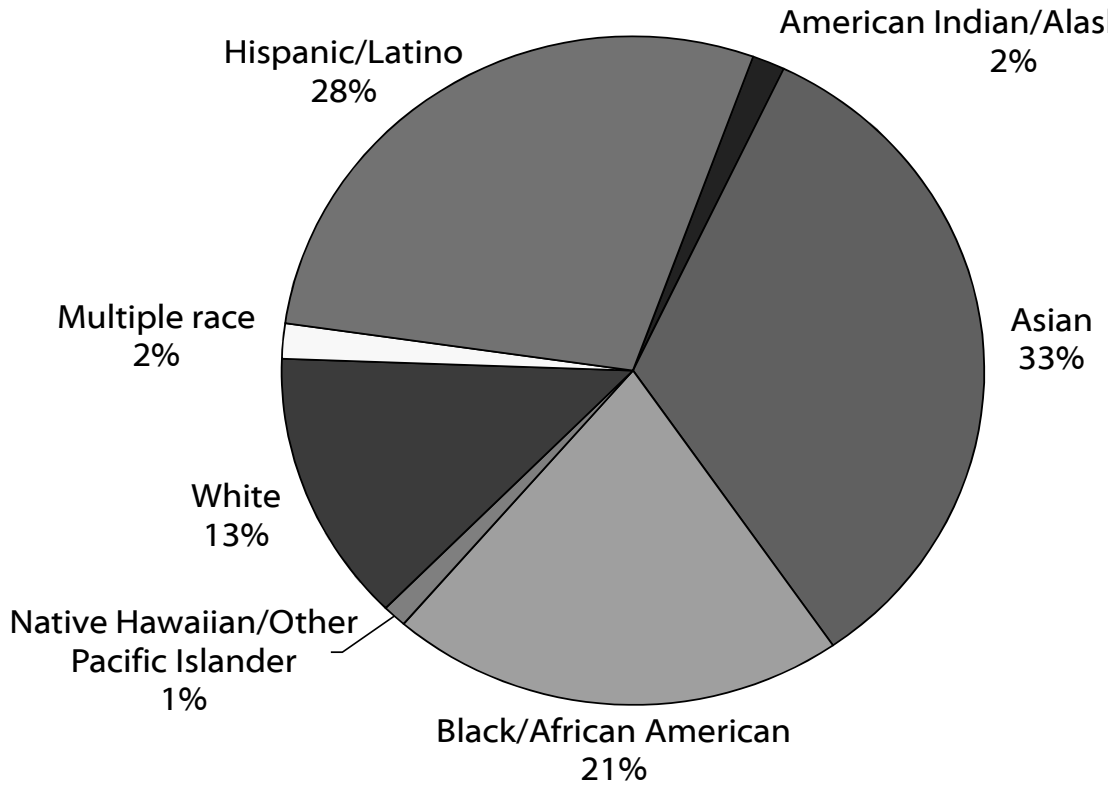
TB Case Rates, by Age Group and Race/Ethnicity,* United States, 2015†



* 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.

† As of June 9, 2016.

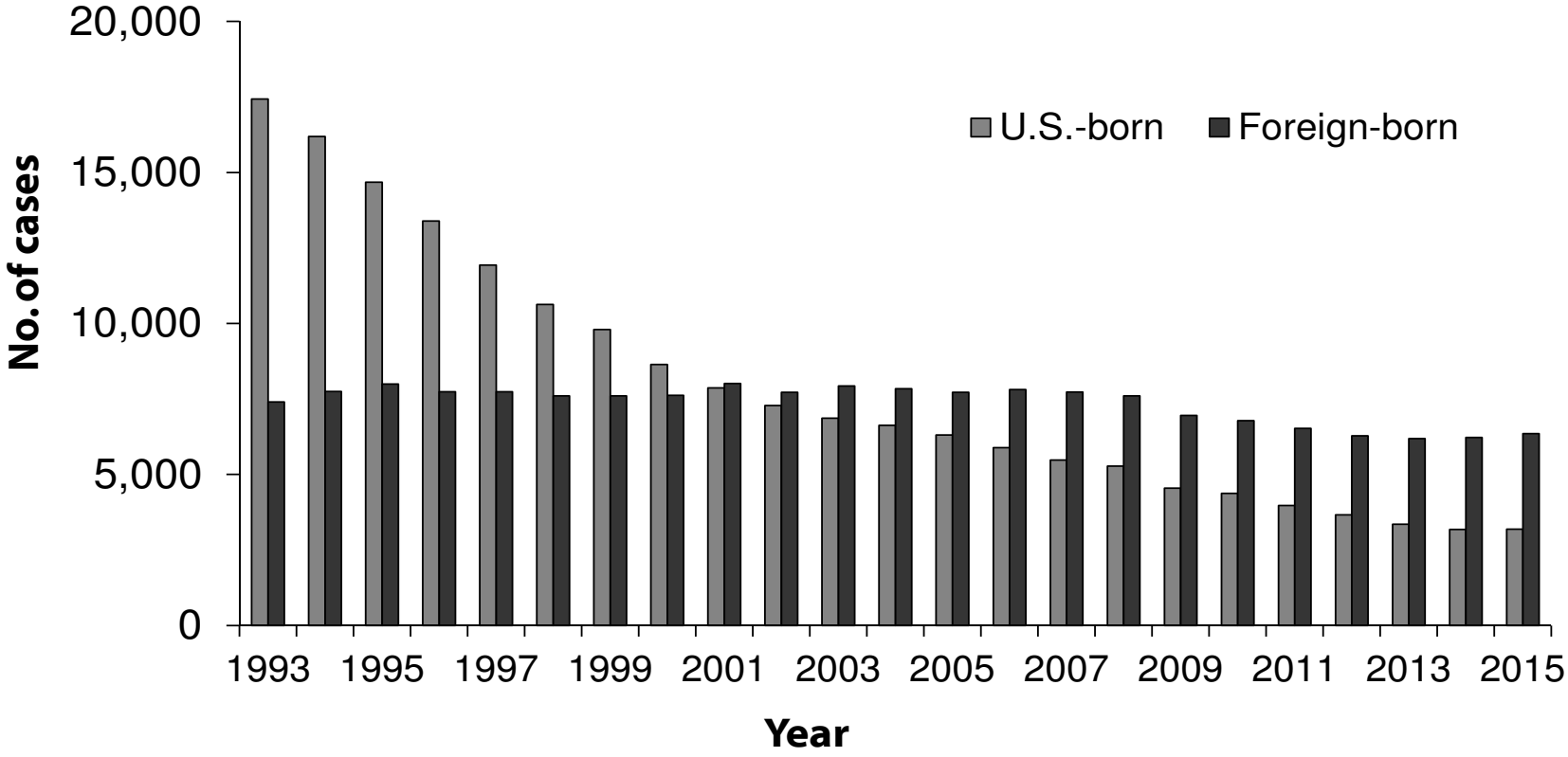
Reported TB Cases, by Race/Ethnicity,* United States, 2015†



* 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. Unknown race consisted of 0.3% and is not shown.

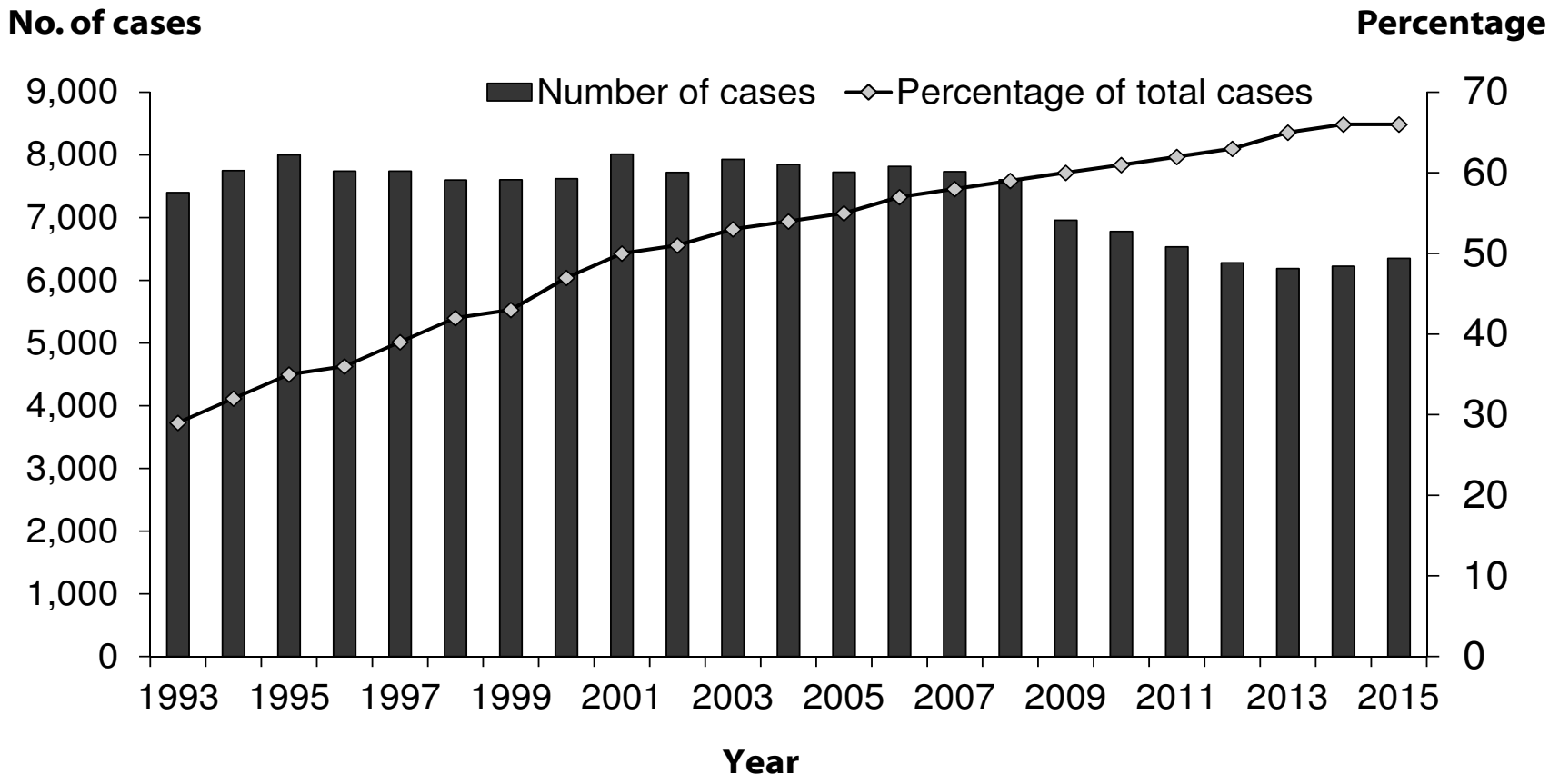
† As of June 9, 2016.

Number of TB Cases Among U.S.-Born versus Foreign-Born Persons, United States, 1993–2015*



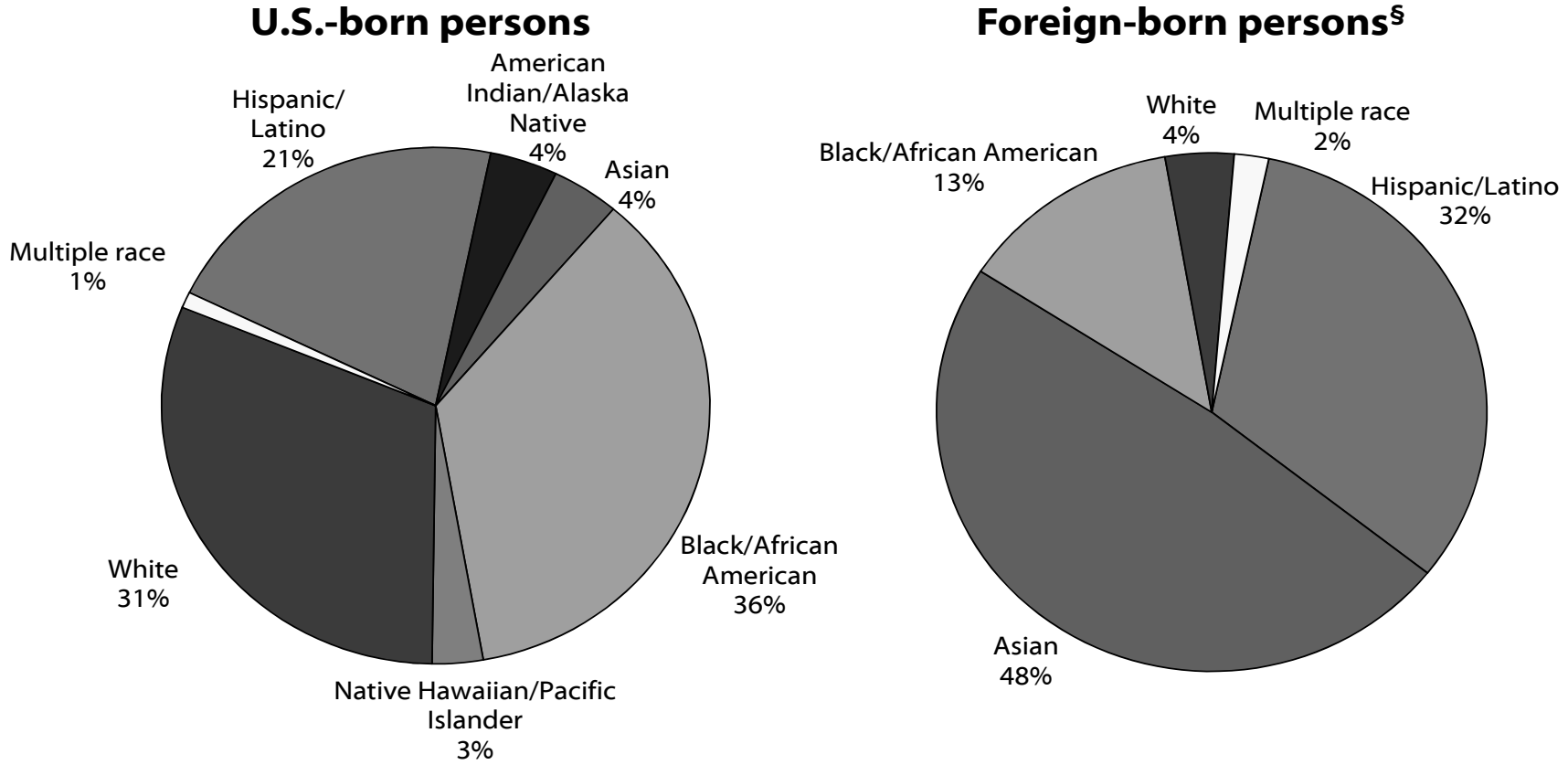
* As of June 9, 2016.

Trends in TB Cases Among Foreign-Born Persons, United States, 1993–2015*



* As of June 9, 2016.

Reported TB Cases, by Origin and Race/Ethnicity†, United States, 2015*

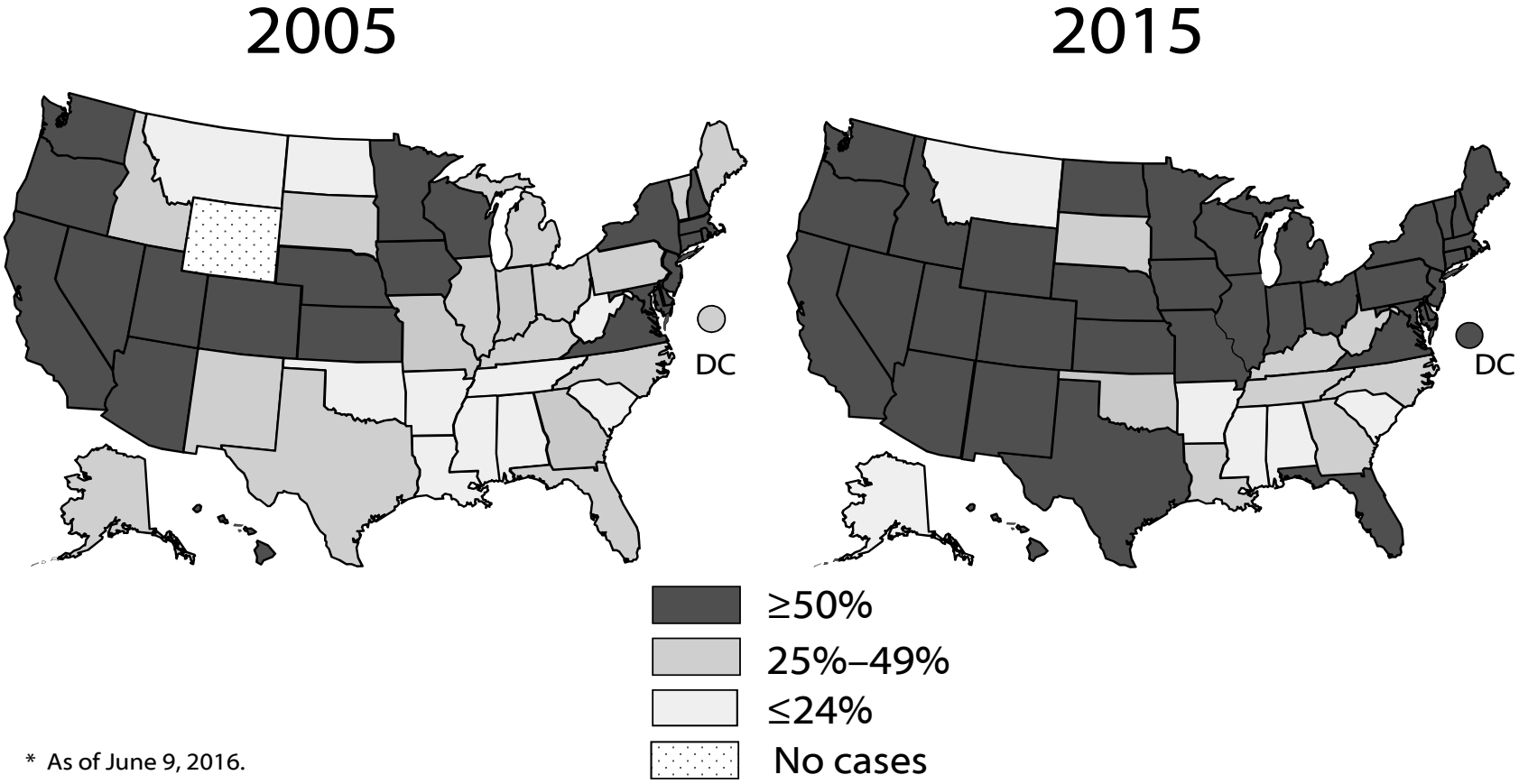


† All races are non-Hispanic; multiple race indicates two or more races reported for a person, but does not include persons of Hispanic/Latino origin.

* As of June 9, 2016.

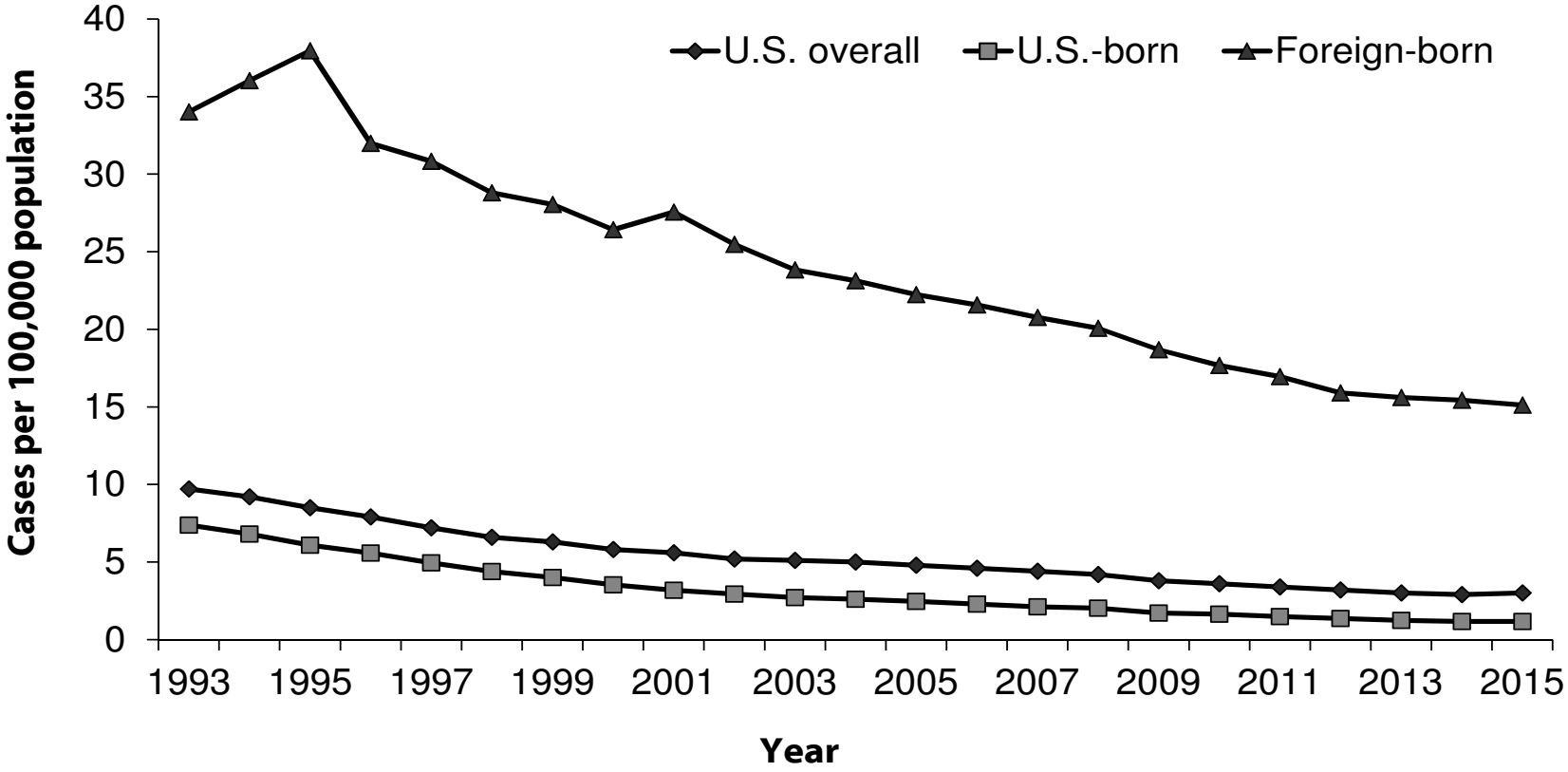
§ American Indian/Alaska Native and Native Hawaiian/Other Pacific Islander accounted for <1% of cases among foreign-born persons and are not shown.

Percentage of Foreign-Born Persons Among TB Cases, United States,* 2005 and 2015



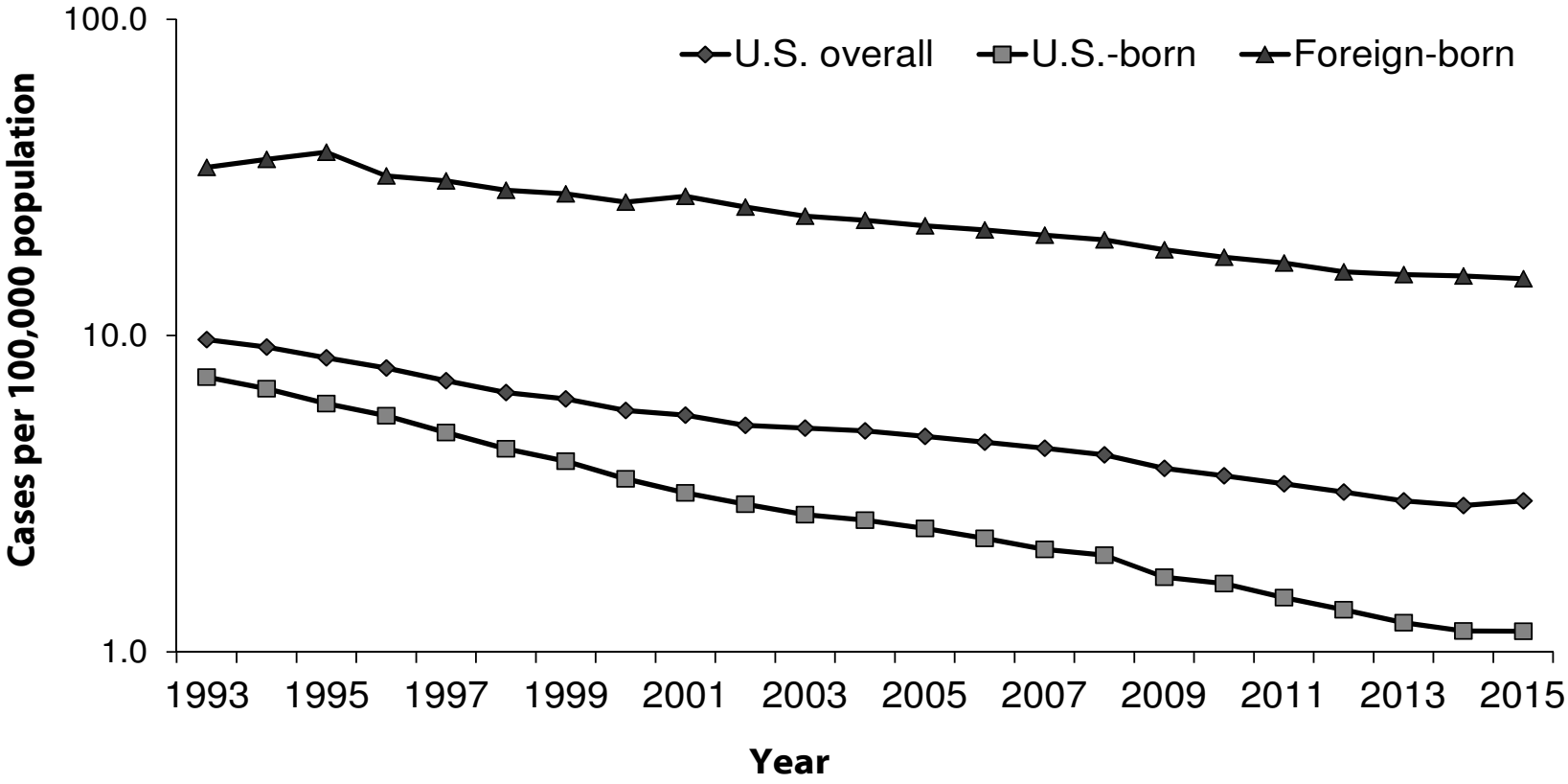
* As of June 9, 2016.

TB Case Rates Among U.S.-Born versus Foreign-Born Persons, United States, 1993–2015*



* As of June 9, 2016.

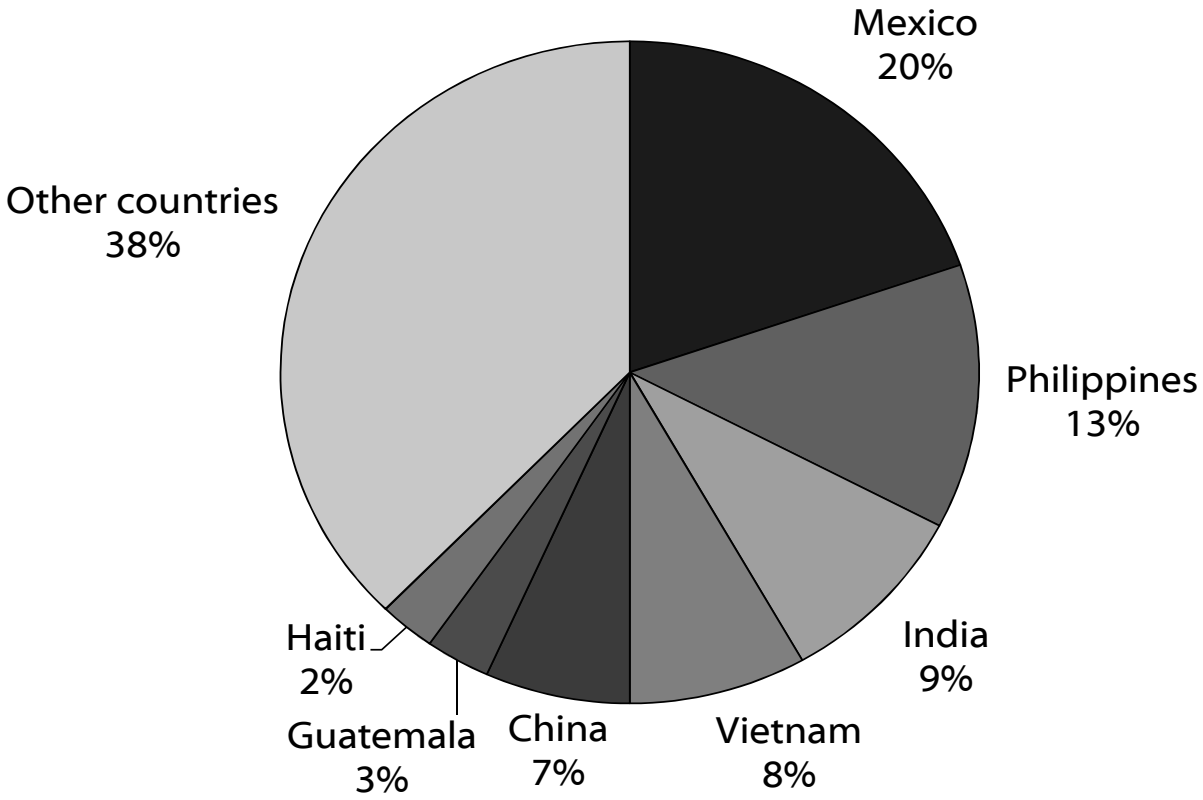
TB Case Rates Among U.S.-Born versus Foreign-Born Persons, United States,* 1993–2015†



* Includes the same data as previous slide, but rates are presented on a logarithmic scale.

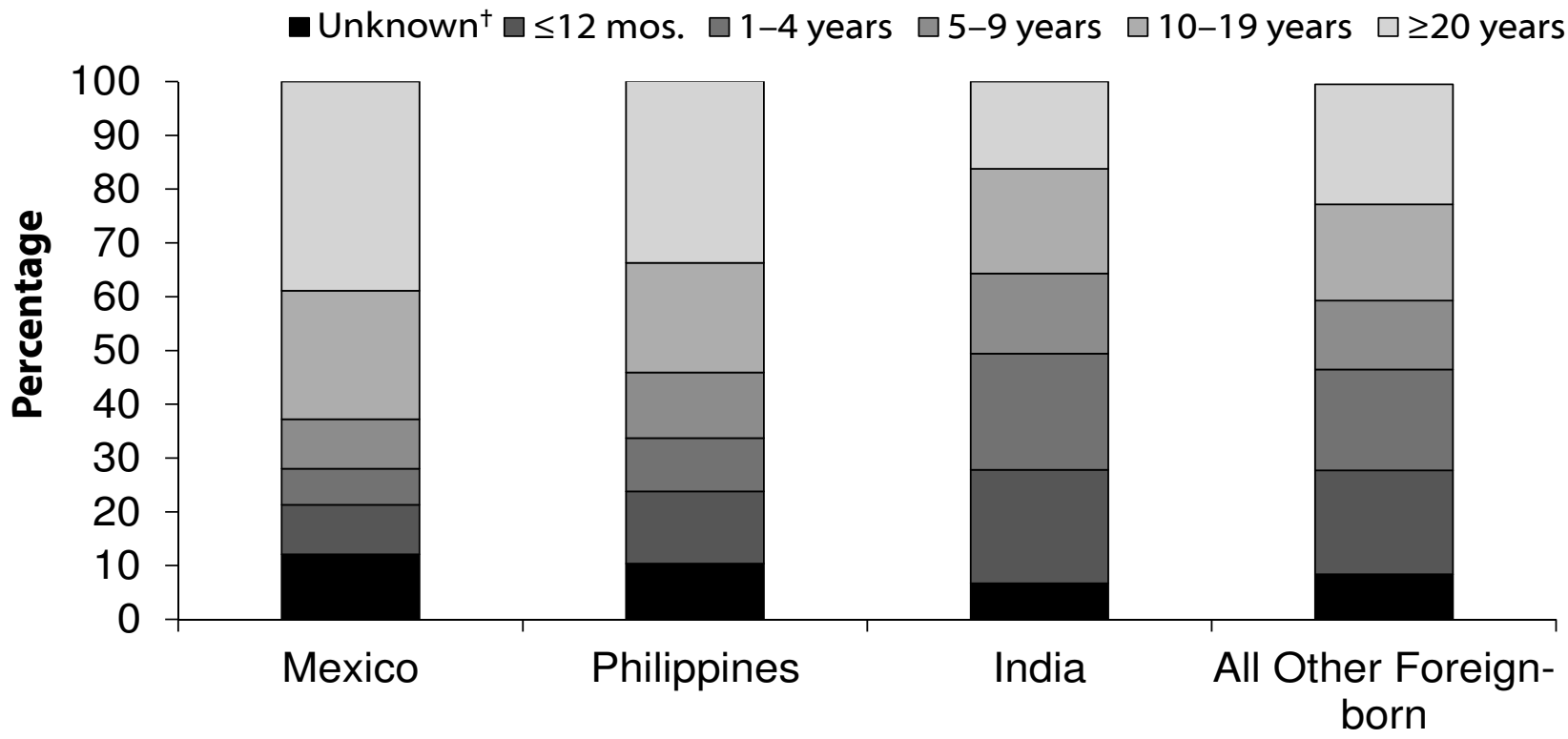
† As of June 9, 2016.

Countries of Birth Among Foreign-Born Persons Reported with TB, United States, 2015*



* As of June 9, 2016.

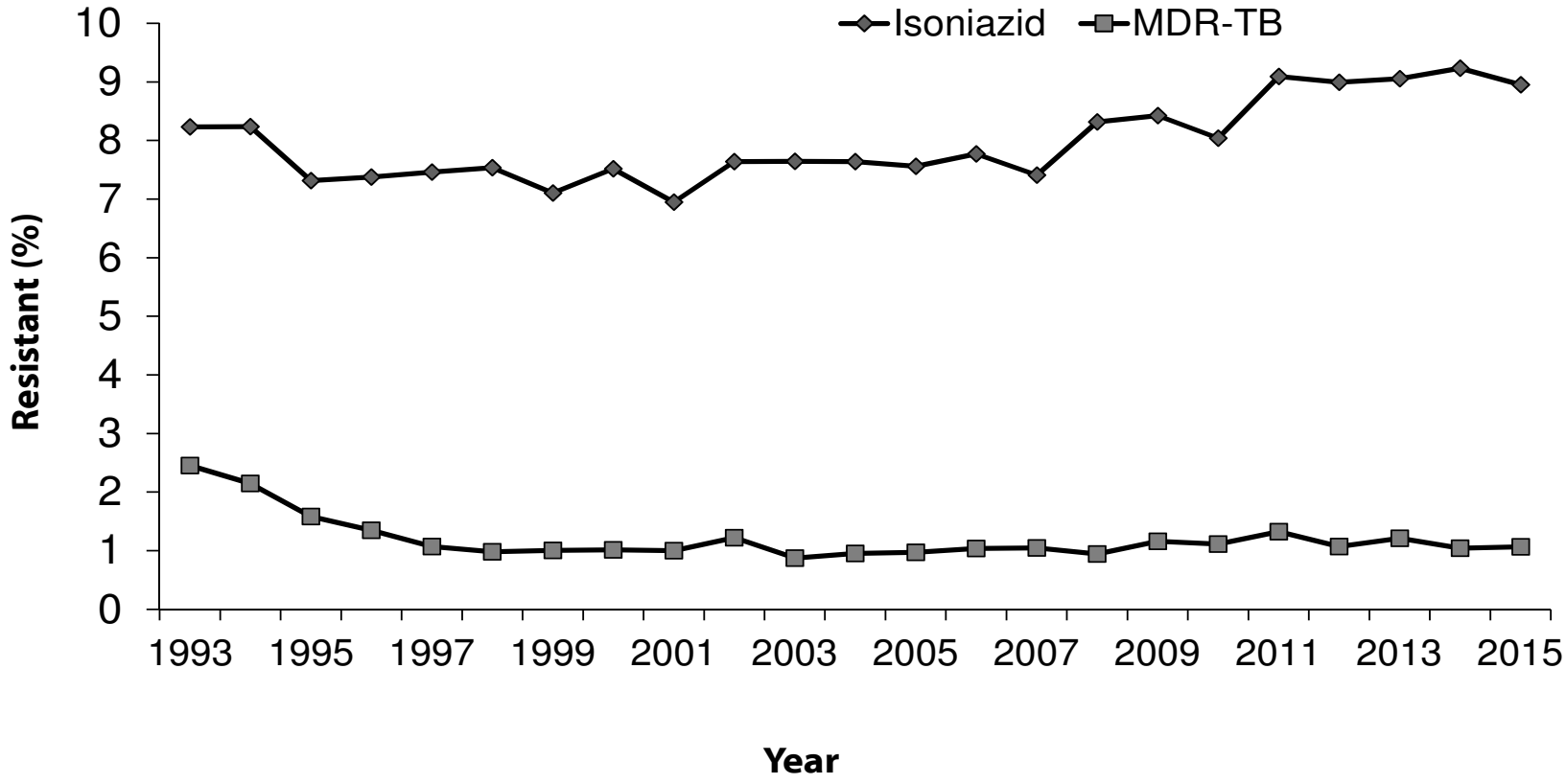
Percentage of Foreign-Born Persons with TB, by Time of Residence in U.S. Before Diagnosis, 2015*



* As of June 9, 2016.

† Foreign-born TB patients for whom information on length of residence in the United States before diagnosis is unknown or missing.

Primary Anti-TB Drug Resistance, United States, 1993–2015*

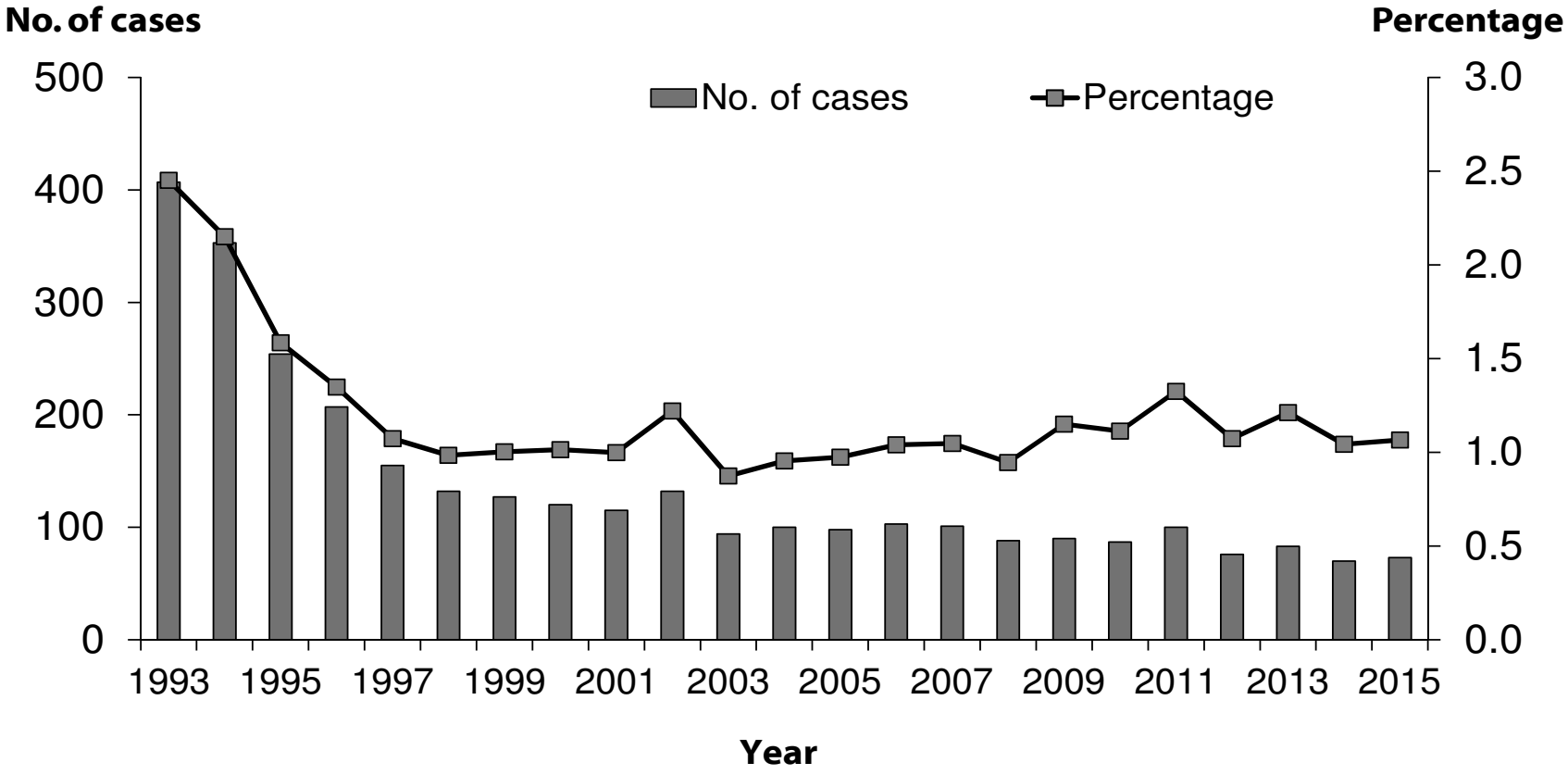


* As of June 9, 2016.

Note: 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.

Surveillance Slide #22

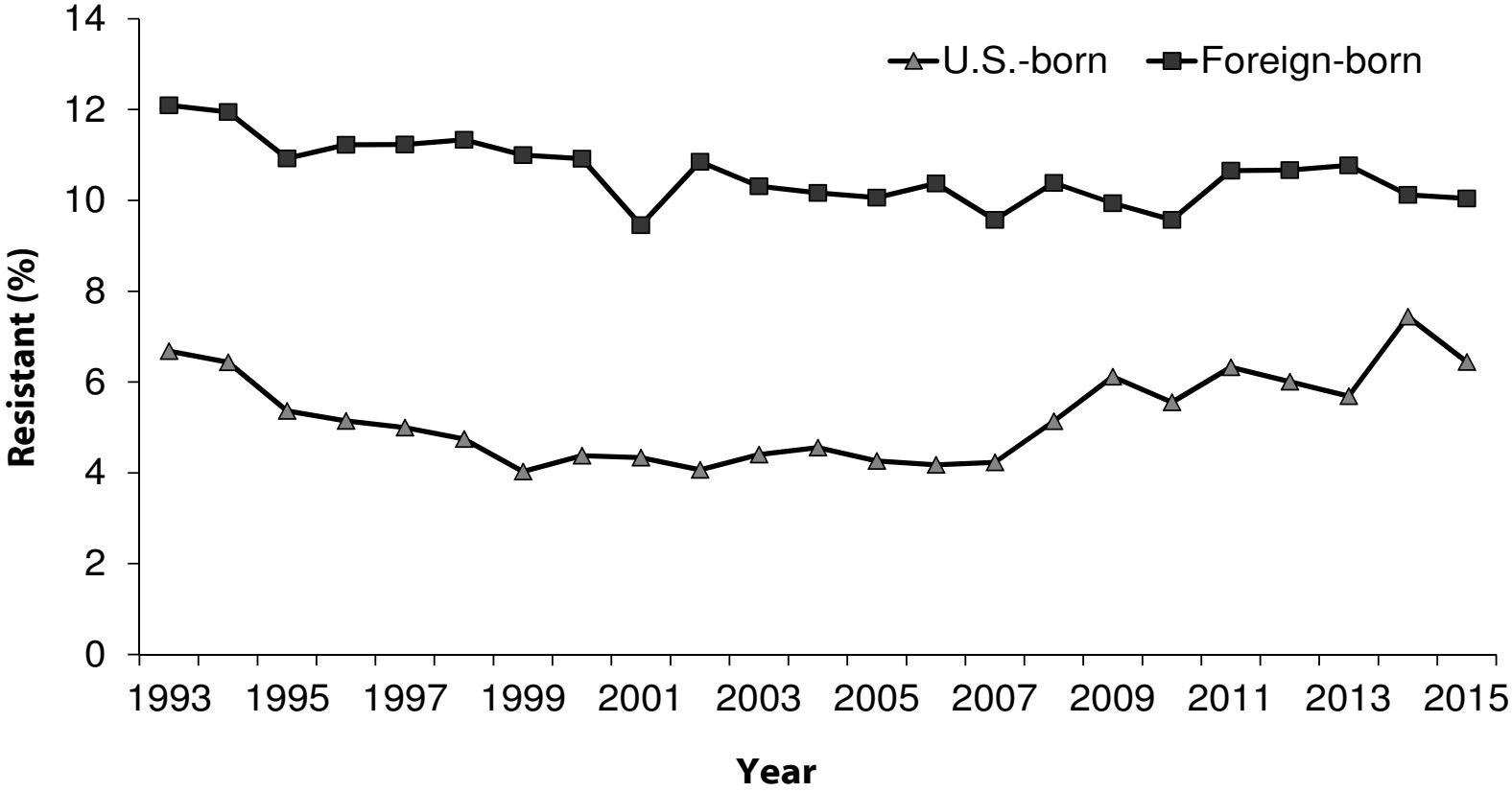
Primary MDR-TB, United States, 1993–2015*



* As of June 9, 2016.

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

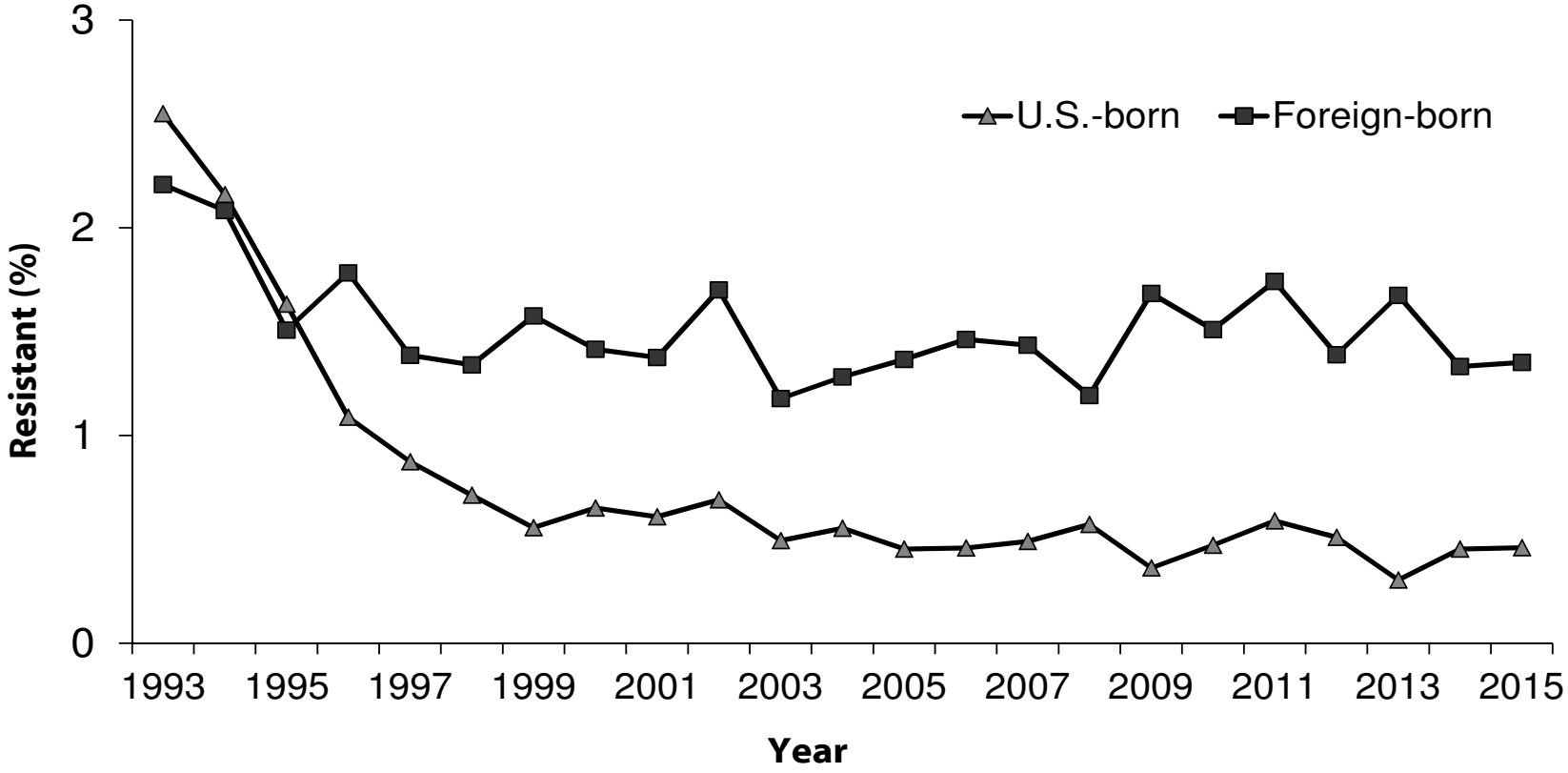
Primary Isoniazid Resistance Among U.S.-Born versus Foreign-Born Persons, United States, 1993–2015*



* As of June 9, 2016.

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

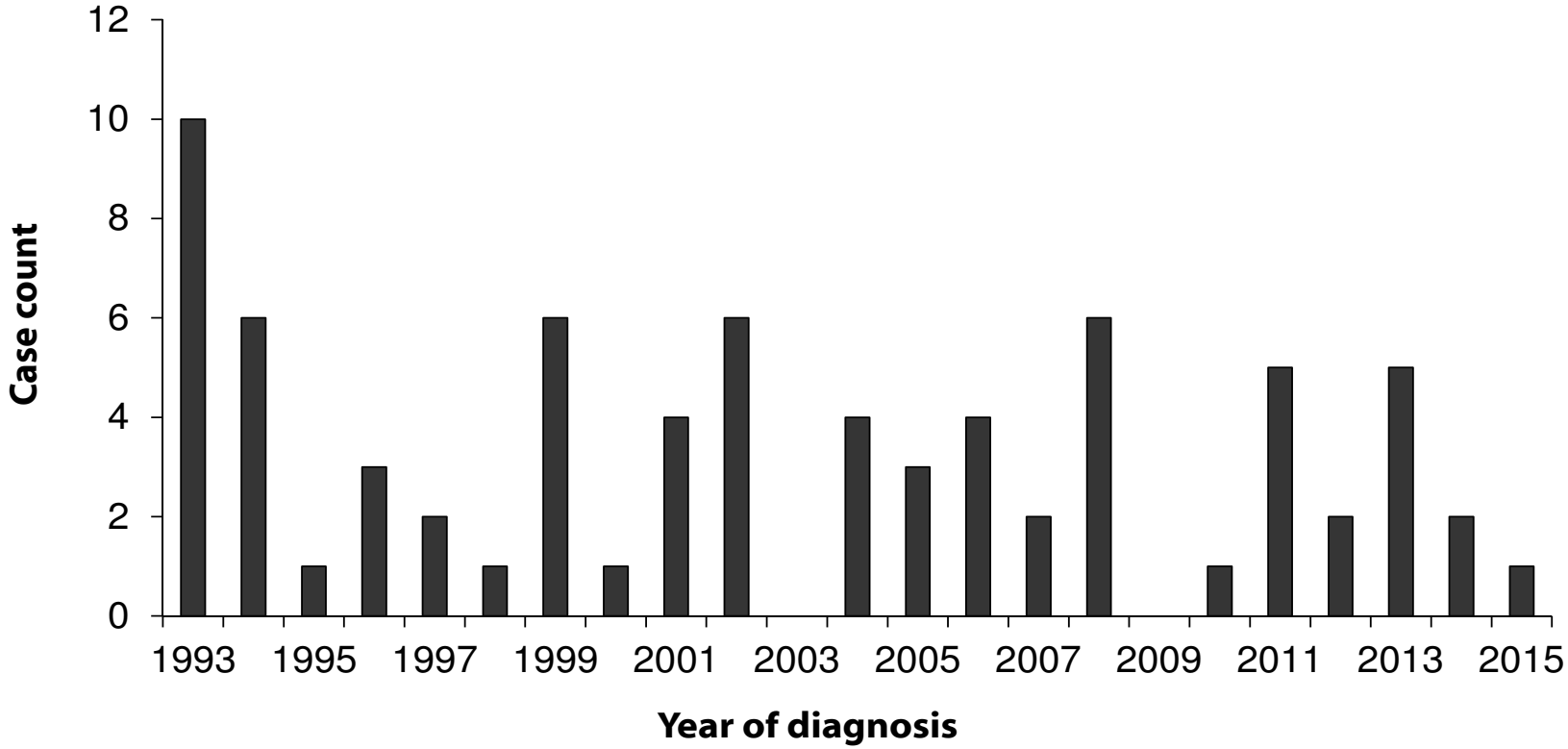
Primary MDR-TB Among U.S.-Born versus Foreign-Born Persons, United States, 1993–2015*



* As of June 9, 2016.

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

XDR-TB* Case Count, Defined on Initial DST,† by Year, 1993–2015§



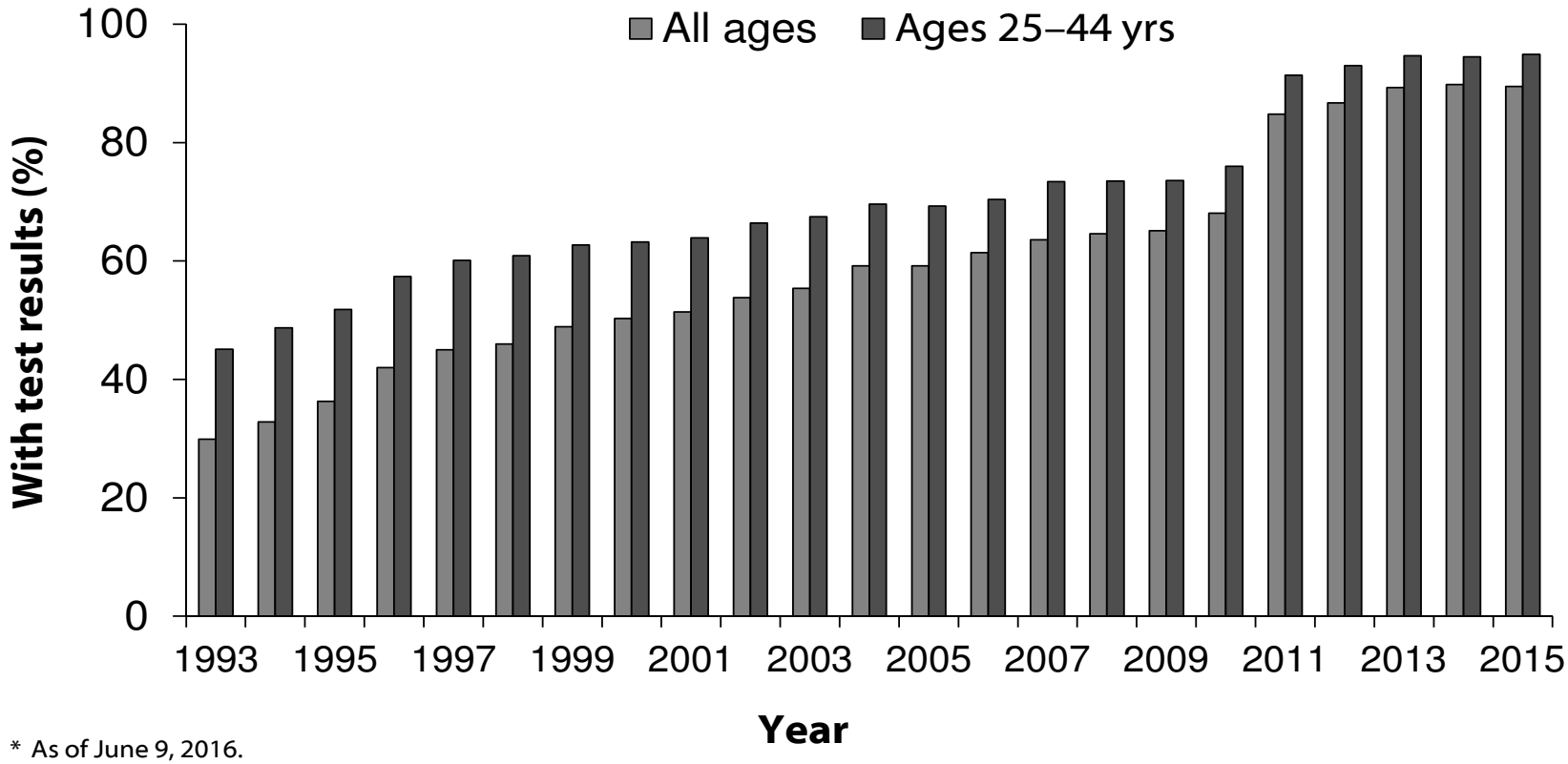
* XDR-TB , extensively drug-resistant TB.

† DST, drug susceptibility test.

§ As of June 9, 2016.

Note: 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.

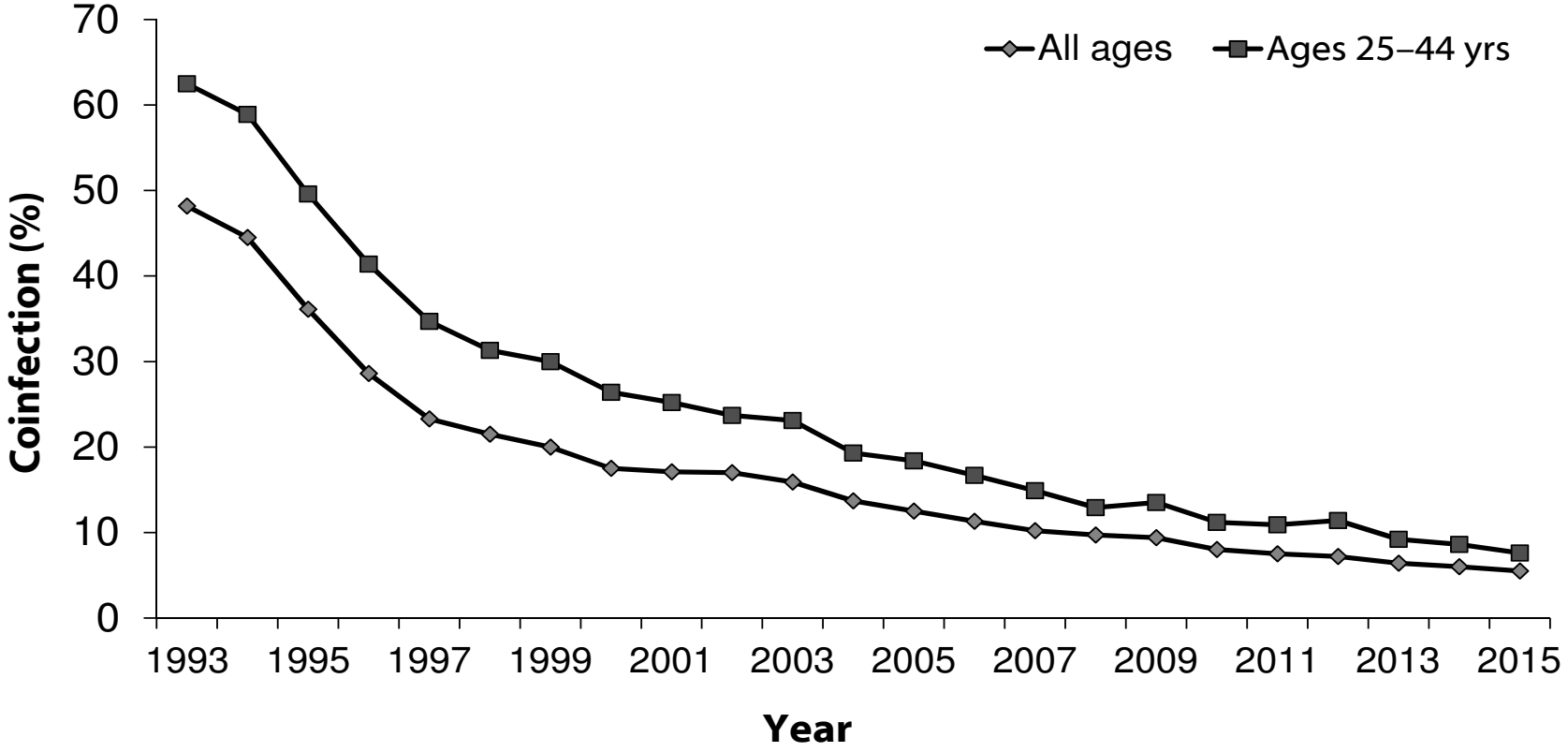
Reporting of HIV Test Results Among Persons with TB, by Age Group, United States, 1993–2015*



* As of June 9, 2016.

Note: 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). Rhode Island did not report HIV test results for years 1993–1997. HIV test results for Vermont are not included for years 2007–2010. HIV test results for California are not included for years 2005–2010.

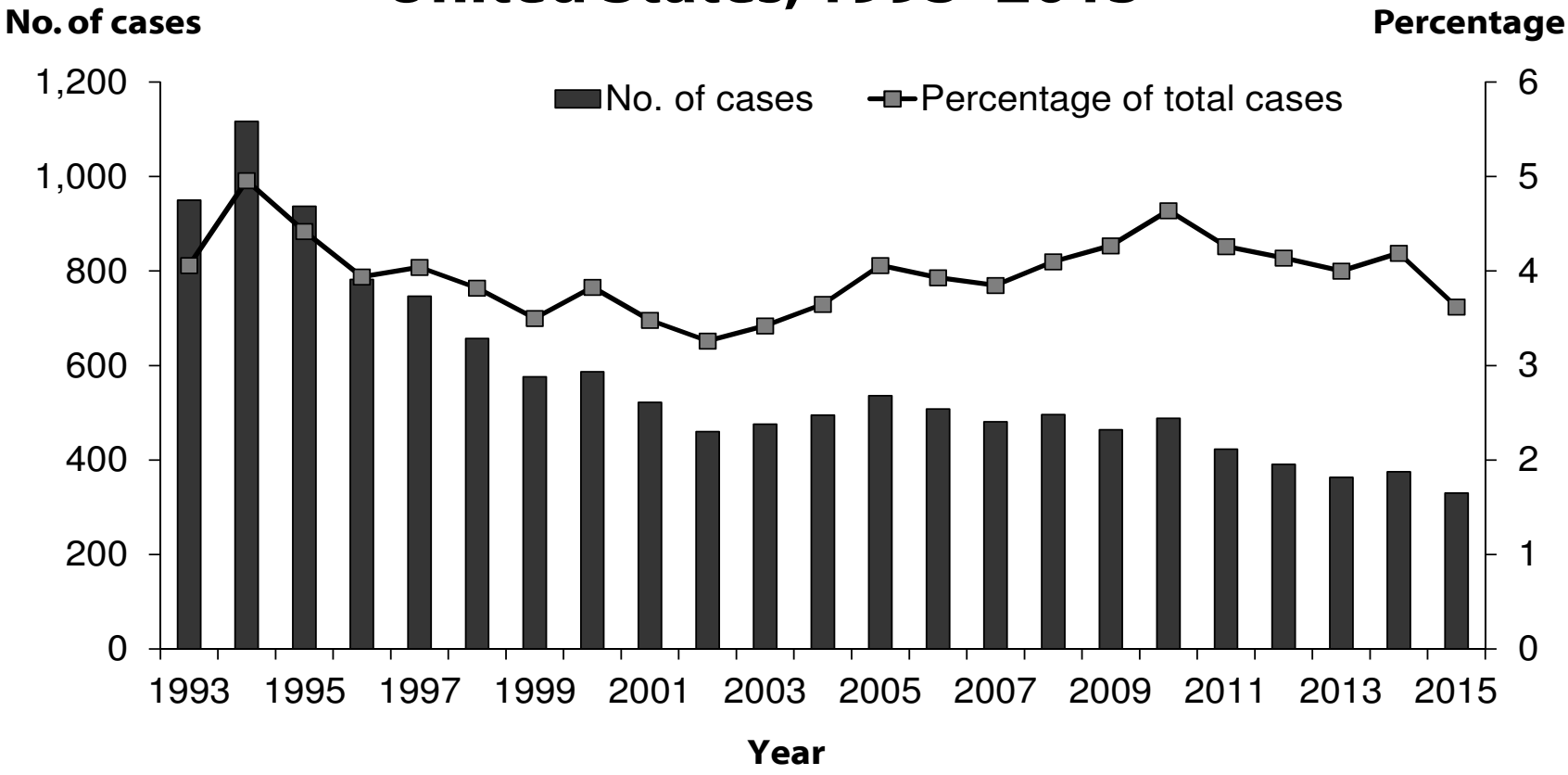
Estimated HIV Coinfection Among Persons Reported with TB, United States, 1993–2015*



* As of June 9, 2016.

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

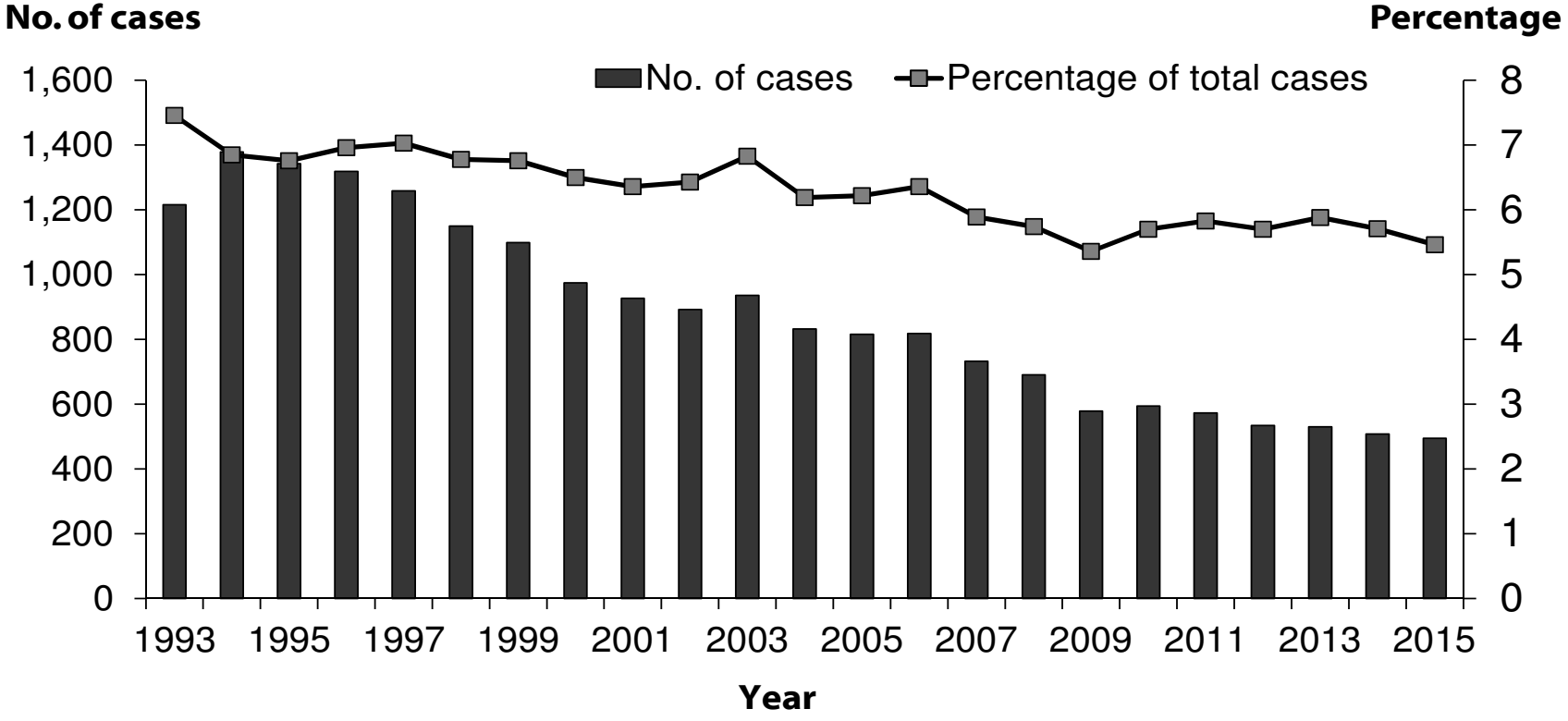
TB Cases Among Persons Aged ≥15 Years Residing in Correctional Facilities, United States, 1993–2015*



* As of June 9, 2016.

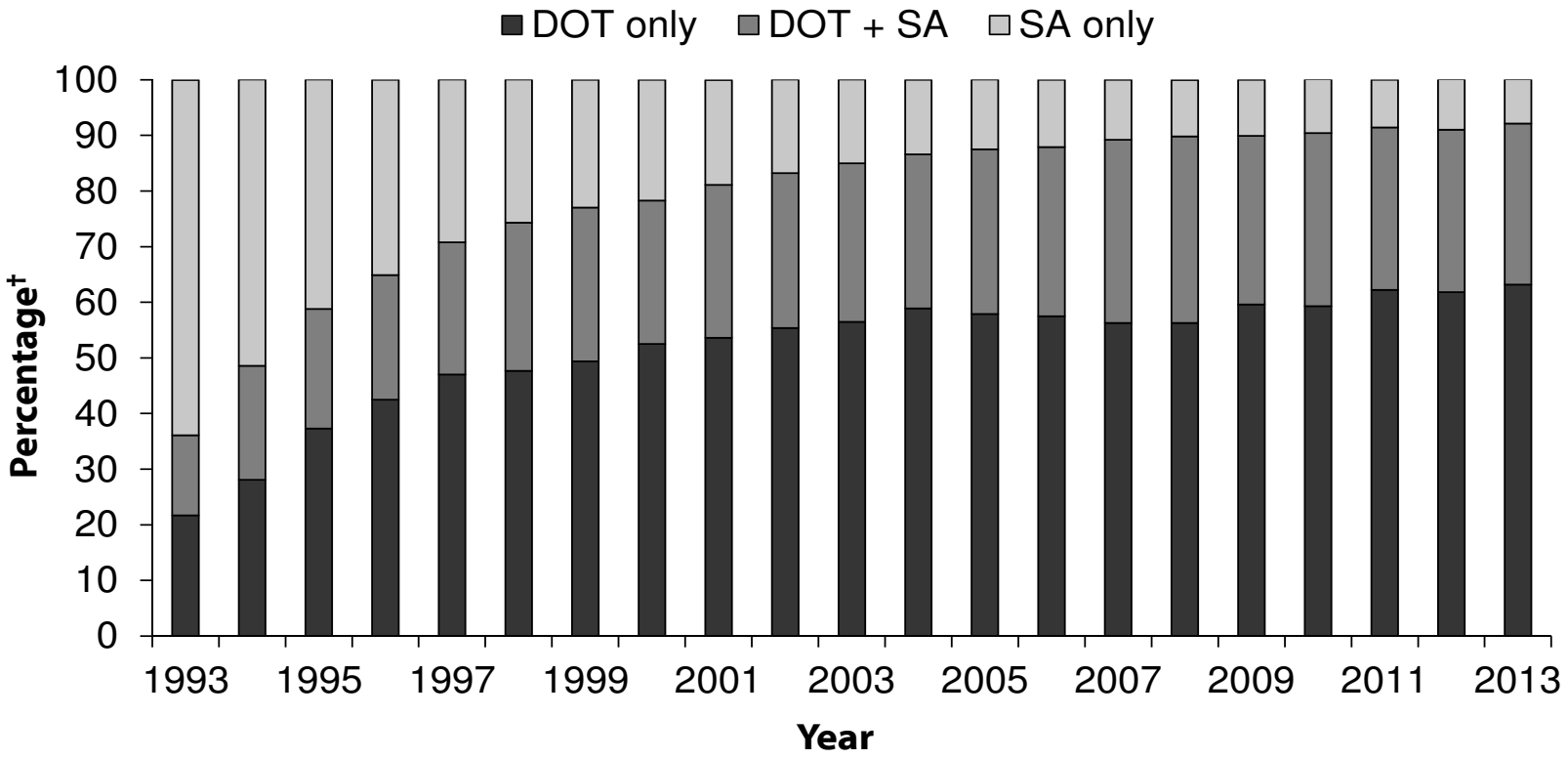
Note: Resident of correctional facility at time of TB diagnosis.

TB Cases Reported Among Homeless Persons During the 12 Months Before Diagnosis, Ages ≥15 Years, United States, 1993–2015*



* As of June 9, 2016.
Note: Homeless during the 12 months before TB diagnosis.

Mode of Treatment Administration Among Persons Reported with TB, United States, 1993–2013*

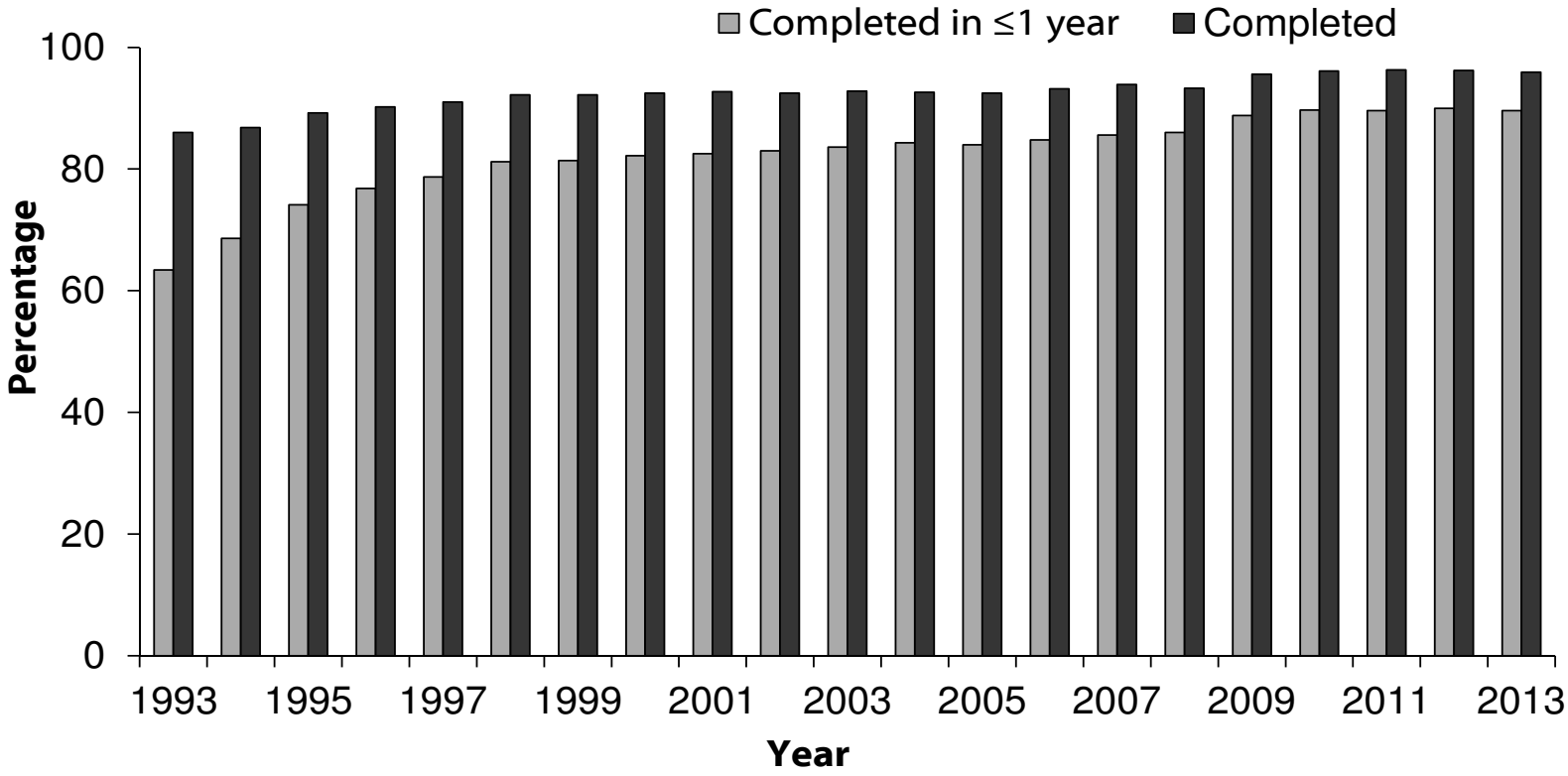


DOT, directly observed therapy; SA, self-administered therapy.

* As of June 9, 2016; data available through 2013 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.

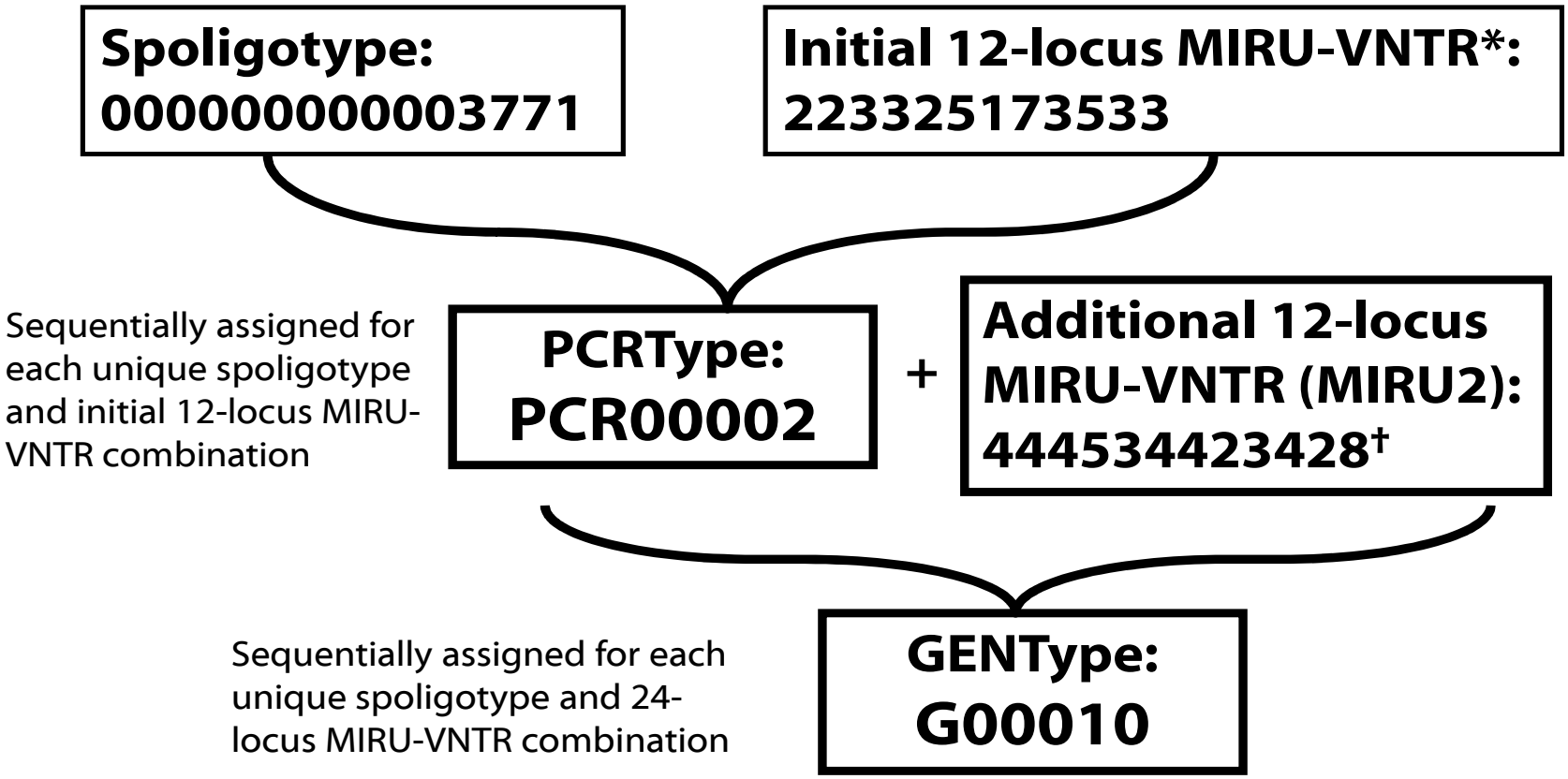
Completion of TB Treatment Therapy, United States, 1993–2013*



* As of June 9, 2016; data available through 2013 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, meningeal disease, or disease of the central nervous system, or pediatric patients (ages 0–14 years) with miliary disease or positive blood culture or a positive nucleic acid amplification test on a blood specimen, and those who moved out of the country within one year of initiating treatment.

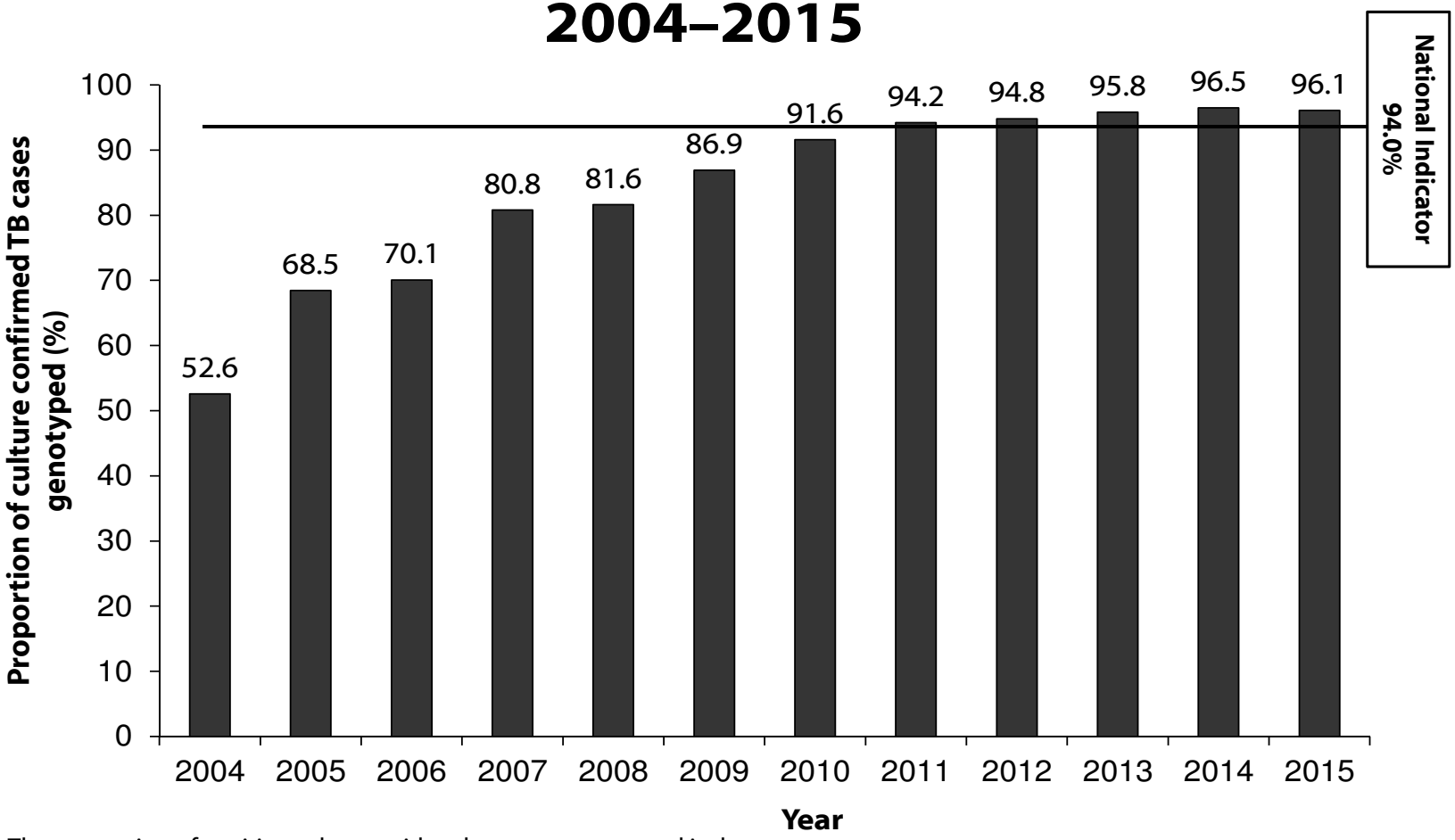
Definition for *Mycobacterium tuberculosis* Genotyping in the United States



* MIRU-VNTR, 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.

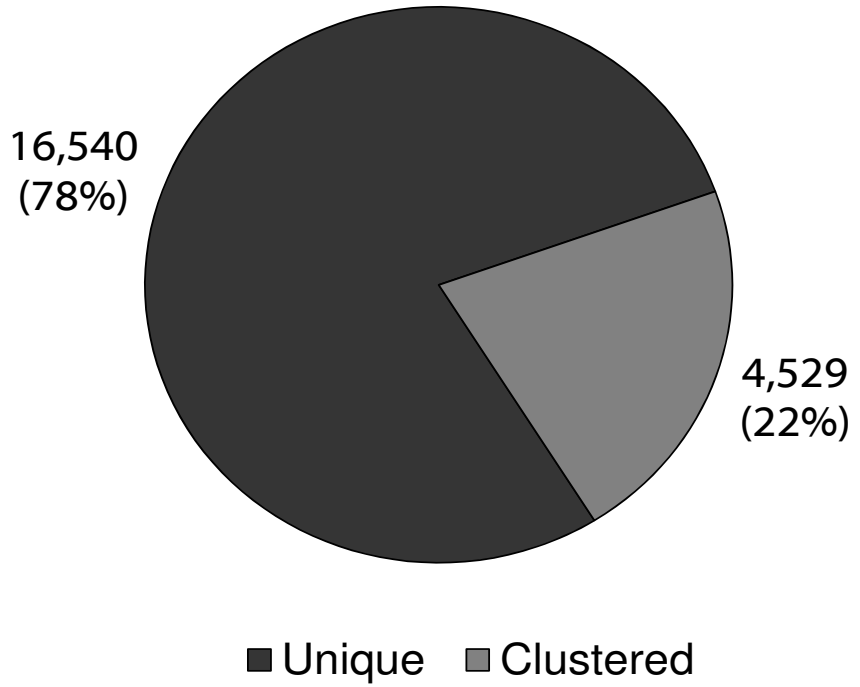
National *Mycobacterium tuberculosis* Genotyping Surveillance Coverage,* by Year, United States,† 2004–2015



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

† Includes all 50 states and the District of Columbia.

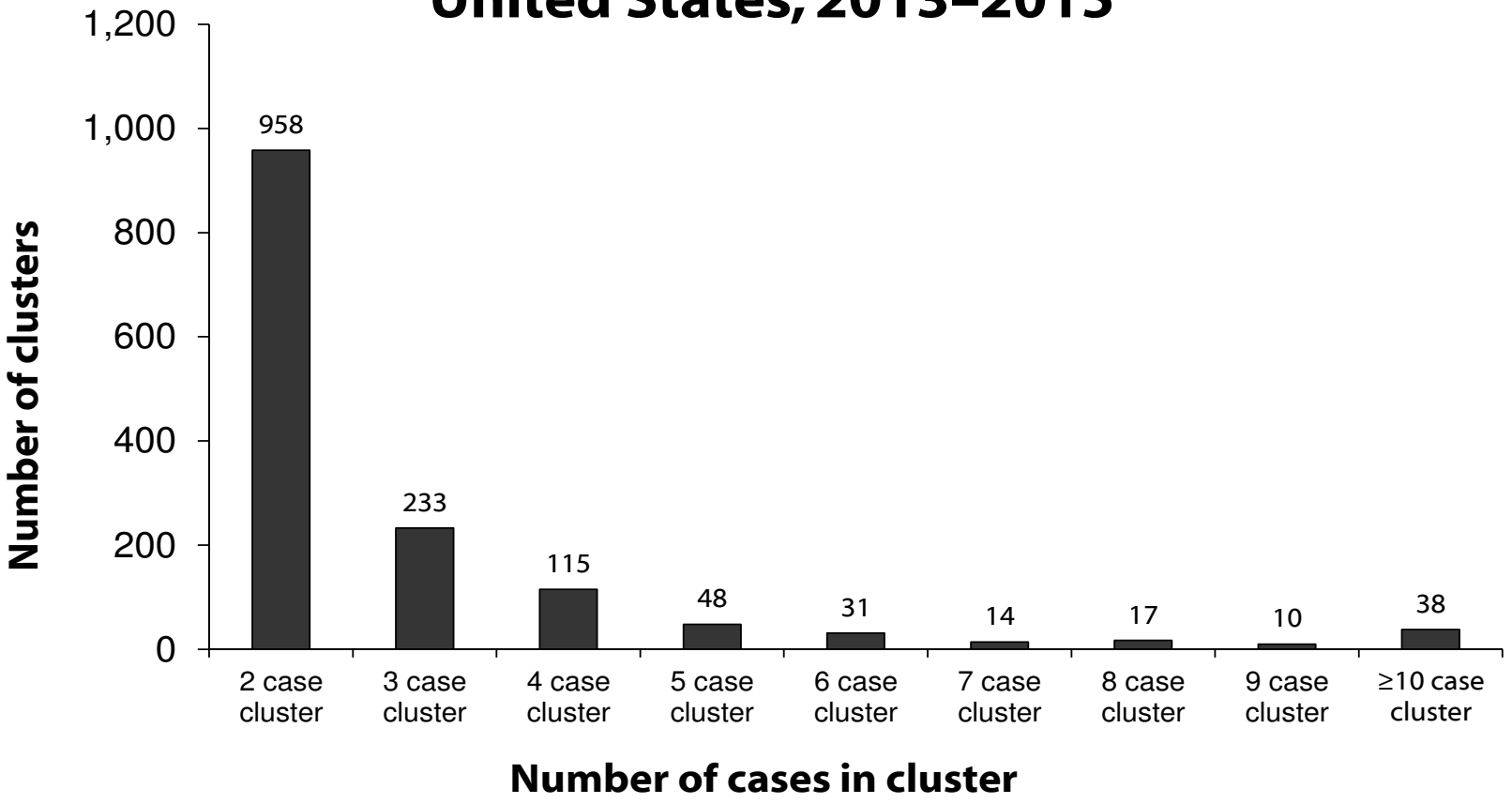
Number and Percentage of Unique* and County-GENType Clustered† Cases, United States, 2013–2015



* A unique case is a case with a spoligotype and 24-locus MIRU-VNTR (GENType) that does not match any other case in that county during the specified 3-year period.

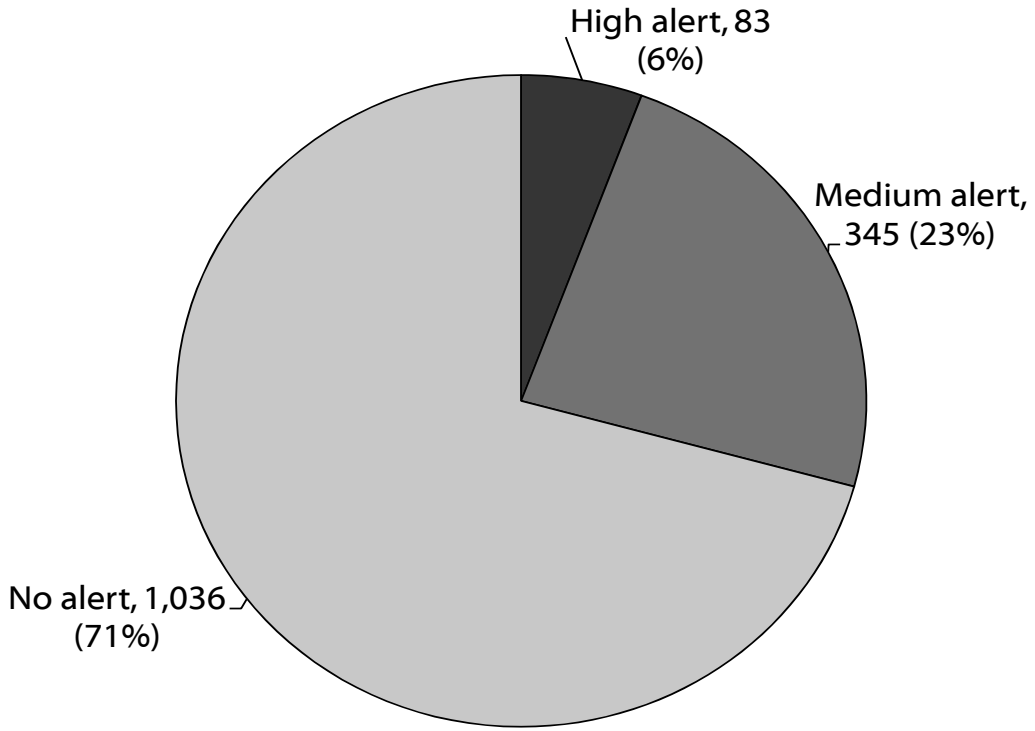
† Two or more cases with matching spoligotype and 24-locus MIRU-VNTR (GENType) within a county during the specified 3-year period.

Number of County-Based *Mycobacterium tuberculosis* Genotype Clusters,* by Cluster Size, United States, 2013–2015



* 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 period.

Mycobacterium tuberculosis Genotype Clusters, by TB GIMS* Alert Levels,† United States, 2013–2015



* TB GIMS, 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 with the national distribution of that genotype; TB GIMS generates alert-level notifications on the basis of this statistic: No alert is indicated if LLR is 0–<5; medium is for LLR of 5–<10; and high alert is for clusters with LLR ≥10.

Tuberculosis in the United States

National Tuberculosis Surveillance System Highlights from 2015

Slide 1 (title slide). Tuberculosis in the United States—National Tuberculosis Surveillance System, Highlights from 2015. 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 2015. 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 introduced in 2009. Each individual 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 updates received by CDC as of June 9, 2016. All case counts and rates for years 1993–2015 have been updated.

Slide 2. Reported Tuberculosis (TB) Cases, United States, 1982–2015. The resurgence of TB in the mid-1980s was marked by years of increasing case counts until its peak in 1992. Case counts decreased from 1993 and 2014. However, in 2015, a slight increase occurred in the total number of TB cases reported in the United States. From 1992 until 2008, the total number of TB cases decreased 2%–7% annually. An unprecedented decrease occurred in 2009, when the total number of TB cases decreased by more than 10% from 2008 to 2009. In 2015, a total of 9,557 cases were reported from the 50 states and the District of Columbia (DC). This represents an increase of 1.6% from 2014, but a 64.2% decrease from 1992.

Slide 3. TB Morbidity, United States, 2010–2015. This slide provides the total number of reported U.S. TB cases and the associated rates for each of the past 6 years. Rate is defined as the number of cases per 100,000 population. The number of TB cases decreased from 11,159 in 2010 to 9,557 in 2015, and the TB rate decreased from 3.6 in 2010 to 3.0 in 2015.

Slide 4. TB Case Rates, United States, 2015. Forty-three states reported a rate ≤3.0 cases/100,000 population, the 2015 national average. Seven states and DC reported a rate >3.0 cases/100,000 population; these accounted for 53% of the national total in 2015.

Slide 5. Map of U.S.-Affiliated Pacific Islands, by TB Case Rates, 2015. The Federated States of Micronesia, Republic of the Marshall Islands, Northern Mariana Islands and Palau had case rates at or above 50/100,000 population. The lowest case rates were in Guam and American Samoa.

Slide 6. TB Case Rates, U.S.-Affiliated Pacific Islands, 2015. Case rates range from 7.4/100,000 population in American Samoa to 189.8/100,000 in the Republic of the Marshall Islands, compared with the substantially lower overall U.S. case rate (3.0/100,000).

Slide 7. TB Case Rates, by Age Group, United States, 1993–2015. During 2015, 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 4.8 in 2015; adults aged 45–64 years, from 12.5 to 3.6; adults aged 25–44 years, from 11.6 to 3.4; persons aged 15–24 years, from 5.0 to 2.1; children aged 5 to 14 years, from 1.7 to 0.5; and children aged ≤4 years, from 5.2 to 1.2.

Slide 8. Reported TB Cases, by Age Group, United States, 2015. Three percent of TB cases were among children aged 0–4 years; 2% were among those aged 5–14 years; 10% were among persons aged 15–24 years; 30% were among adults aged 25–44 years; 32% were among adults aged 45–64 years; and 24% were among adults aged ≥65 years.

Slide 9. TB Case Rates, by Age Group and Sex, United States, 2015. Case rates tended to increase with age, ranging from a low of <1 case/100,000 children aged 5–14 years to a high of 6.7 cases/100,000 men aged ≥65 years. As age increased, the case rate among men increased faster than among women; the rates among

men aged ≥45 years were approximately twice those among women of the same age.

Slide 10. TB Case Rates, by Race/Ethnicity, United States, 2003–2015. By race/ethnicity, the rates indicate a declining trend in TB since 2003. Asians consistently had the highest yearly TB rates, but their rates declined from 29.3 cases/100,000 population in 2003 to 18.2 in 2015, a 38% decrease. Rates also declined among the following racial/ethnic groups: non-Hispanic blacks/African Americans, from 11.7 in 2003 to 5.0 in 2015 (–57%); Hispanics, from 10.2 to 4.8 (–54%); American Indians and Alaska Natives, from 8.3 to 6.1 (–26%); and non-Hispanic whites, from 1.4 to 0.6 (–56%). Rates increased among Native Hawaiian/Other Pacific Islanders, from 15.7 to 18.2 (16%) from 2003 to 2015. 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.

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*.

Slide 11. TB Case Rates, by Age Group and Race/Ethnicity, United States, 2015. After infancy (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. 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.

Slide 12. Reported TB Cases, by Race/Ethnicity, United States, 2015. During 2015, approximately 85% of all reported TB cases occurred among racial/ethnic minorities: Asians, 33%; Hispanics, 28%; non-Hispanic blacks/African Americans, 21%; American Indians/Alaska Natives, 2%; and Native Hawaiians/Other Pacific Islanders, 1%. In contrast, 13% of cases occurred among non-Hispanic whites. Persons reporting two or more races, not including persons of Hispanic or Latino ethnicity, accounted for 2% of all cases.

Slide 13. Number of TB Cases Among U.S.-Born versus Foreign-Born Persons, United States, 1993–2015. The graph illustrates the increase in the percentage of cases occurring among foreign-born persons during the study period, from 29% in 1993 to 66% in 2015. Overall, the number of cases among foreign-born persons remained stable before 2009, with approximately 7,400–8,000 cases/year. During 2009, the number decreased to 6,959, and that trend continued through 2013, with the number of cases among foreign-born persons decreasing to 6,186. However, since 2014, the number of cases among foreign-born persons has increased (6,350 cases during 2015). The number among U.S.-born persons decreased from >17,000 in 1993 to 3,186 in 2015.

Slide 14. Trends in TB Cases Among Foreign-Born Persons, United States, 1993–2015. The percentage of TB cases accounted for among foreign-born persons increased from 29% in 1993 to 66% in 2015.

Slide 15. Reported TB Cases, by Origin and Race/Ethnicity, United States, 2015. Among U.S.-born persons with TB in 2015, 36% were non-Hispanic black/African American; 31% were non-Hispanic white, 21% were Hispanic/Latino; 4% were Asian; 4% were American Indian/Alaska Native; and 3% were Native Hawaiian/Other Pacific Islander. Persons reporting two or more races totaled <1% of cases among U.S.-born persons. Among foreign-born persons with TB, 48% were Asian; 32% were Hispanic/Latino; 13% were non-Hispanic black/African American; 4% were non-Hispanic white; and 2% were persons reporting two or more races, not including persons of Hispanic/Latino origin. Cases among American Indians/Alaska Natives and among Native Hawaiians/Other Pacific Islanders constituted 0.2% of the cases among foreign-born persons and are not included on the charts.

Slide 16. Percentage of Foreign-Born Persons Among TB Cases, United States, 2005 and 2015. The number of states with <25% of their TB cases occurring among foreign-born persons decreased from 10 states in 2005 to 6 states in 2015. The number of states with ≥25%–49% of cases among foreign-born persons decreased from 17 states and DC in 2005 to 8 states in 2015. However, the number of states that had ≥50% of their cases among foreign-born persons increased from 23 states in 2005 to 36 states and DC in 2015.

Slide 17. TB Case Rates Among U.S.-Born versus Foreign-Born Persons, United States, 1993–2015. TB rates among foreign-born persons remain higher than those among the U.S.-born population. During 1993–2015, the rates among U.S.-born persons decreased from 7.4 cases/100,000 population to 1.2, whereas the rates among foreign-born persons decreased from 34.0 cases/100,000 population to 15.1.

Slide 18. TB Case Rates Among U.S.-Born versus Foreign-Born Persons, United States, 1993–2015. The chart presents the same data as on Slide 17, but uses a logarithmic scale to better illustrate the trends. The trend lines indicate a greater rate of decrease among U.S.-born, compared with foreign-born, persons during the study period.

Slide 19. Countries of Birth Among Foreign-Born Persons Reported with TB, United States, 2015. 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 2015, the top seven countries accounted for >60% of all cases among foreign-born persons, with Mexico accounting for 20%; the Philippines, 13%; India, 9%; Vietnam, 8%; China, 7%; Guatemala, 3%; and Haiti, 2%. Persons from 136 other countries each accounted for ≤2% of the total, but altogether, accounted for 38% of foreign-born persons reported with TB.

Slide 20. Percentage of Foreign-Born Persons with TB, by Time of Residence in U.S. Before Diagnosis, 2015. The chart indicates that the distribution for the top three countries of birth is Mexico, the Philippines, and India. Among persons born in Mexico, 9.2% had been in the United States for <1 year; 6.7%, 1–4 years; 9.2%, 5–9 years; 23.9%, 10–19 years; and 38.9% for ≥20 years. Among persons born in the Philippines, 13.4% had been in the United States for <1 year; 9.9%, 1–4 years; 12.2%, 5–9 years; 20.4%, 10–19 years; and 33.8%, ≥20 years. Among persons born in India, 21.1% had been in the United States for <1 year; 21.6%, 1–4 years; 14.9%, 5–9 years; 19.5%, 10–19 years; and 16.2%, ≥20 years. Values for unknown length of residence in the United States for these top three countries ranged from 6.7 to 12.1% for 2015. For all other foreign-born persons, 19.3% had been in the United States for <1 year; 18.8%, 1–4 years; 12.8%, 5–9 years; 17.9%, 10–19 years; 22.3%, ≥20 years; and 8.4%, unknown length of residence. Overall, 16.7% had been in the United States for <1 year; 15.8%, 1–4 years; 12.2%, 5–9 years; 19.5%, 10–19 years; 26.5%, ≥20 years; and 9.2%, unknown length of residence.

Slide 21. Primary Anti-TB Drug Resistance, United States, 1993–2015. 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 >86.9% 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 2015, this had increased to 9.0%. 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. In 2015 the percent of primary MDR TB was 1.1%.

Slide 22. Primary MDR-TB, United States, 1993–2015. 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 73 cases reported for 2015. Primary MDR-TB, indicated by the trend line, decreased from 2.5% in 1993 to approximately 1.0% in 1998, and has fluctuated approximately 1.0% since then. During 2015, the percentage was 1.1%.

Slide 23. Primary Isoniazid Resistance Among U.S.-Born versus Foreign-Born Persons, United States, 1993–2015. On the basis of initial isolates from persons with no prior history of TB, the percentage of isoniazid resistance has remained higher among foreign-born persons than among U.S.-born persons for all years measured. Among foreign-born persons, the percentage declined from 12.1% in 1993 to 10.0% in 2015. In U.S.-born persons, the percentage decreased from 6.7% in 1993 to 4.2% in 2007, but has increased since then to 6.4% in 2015.

Slide 24. Primary MDR-TB Among U.S.-Born versus Foreign-Born Persons, United States, 1993–2015. The percentage of persons with primary MDR-TB has declined among both groups since 1993, although the decline among U.S.-born persons has been greater. Consequently, the proportion of primary MDR-TB cases in the United States that are attributed to foreign-born persons increased from approximately 25% in 1993 to 86% in 2015 (not shown on slide). Among U.S.-born persons, the percentage with primary MDR-TB has been <1% since 1997 and was 0.5% in 2015. The percentage among foreign-born persons has fluctuated year to year, although it has remained from 1.2 to 1.8% since 1995. During 2015, the percentage of primary MDR-TB cases among foreign-born persons was 1.4%.

Slide 25. XDR-TB Case Count, Defined on Initial DST, United States, 1993–2015. 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. One case of XDR-TB was reported in 2015, 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.

Slide 26. Reporting of HIV Test Results Among Persons with TB, by Age Group, United States, 1993–2015. The percentage of TB patients for whom HIV test results were reported increased from 29.9% among all ages in 1993 to 89.5% in 2015. Among adults aged 25–44 years, the percentage increased from 45.1% in 1993 to 94.9% in 2015. California began reporting HIV test results to CDC in 2011, which accounts for the substantial percentage increase for that year.

Slide 27. Estimated HIV Coinfection Among Persons Reported with TB, United States, 1993–2015. Since the addition of HIV status to the individual TB case report in 1993, incomplete reporting has provided a challenge to calculating reliable estimates. However, reporting improved substantially beginning in 2011 (see Slide 26). For all ages, the estimated percentage of coinfection among persons with TB who reported HIV testing (positive, negative, or indeterminate results) decreased from 48.2% to 5.5% overall during 1993–2015, and from 62.5% to 7.6% among persons aged 25–44 years during that period.

Slide 28. TB Cases Among Persons Aged ≥15 Years Residing in Correctional Facilities, United States, 1993–2015. The number of cases among persons aged ≥15 years residing in a correctional facility has decreased from a high of 1,117 cases in 1994 to 330 cases in 2015. During 2000–2010, the number of TB cases reported from correctional facilities ranged from mid-to-high 400s to high 500s; 2011 was the first year cases decreased to <423 cases. Of total cases, the percentage of cases residing in a correctional facility has ranged from 5.0% in 1994 to 3.3% in 2002. The 1990s saw a decreasing trend in percentages until 2002. Since 2002, the trend has increased in percentages. However, during 2015, the percentage of total cases decreased to 3.6%.

Slide 29. TB Cases Reported Among Homeless Persons During the 12 Months Before Diagnosis, Ages ≥15 Years, United States, 1993–2015. The number of cases among persons aged ≥15 years who were homeless any time during the 12 months before the TB diagnosis has decreased from a high of 1,379 cases in 1994 to 495 in 2015. This category has experienced an overall decrease since 1994, with the exception of slight increases during 2003, 2006, and 2010. Of total cases, the percentages among homeless persons have had an overall decrease from 7.5% in 1993 to 5.5% in 2015.

Slide 30. Mode of Treatment Administration Among Persons Reported with TB, United States, 1993–2013. In 1993, the reporting areas began providing information regarding modes 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 63.2% in 2013, the latest year with available data. The proportion of patients

who received at least some portion of their treatment as DOT (on the basis of combining the percentage of patients who received only DOT and the percentage for whom some portion was self-administered) was 28.9% during 2013.

Slide 31. Completion of TB Treatment Therapy, United States, 1993–2013. Reporting areas began providing information regarding TB treatment therapy completion in 1993 through the individual TB case report form. The calculations include persons alive at diagnosis with an initial regimen of ≥1 drug prescribed, who did not die within 1 year of initiating therapy. The calculations exclude persons with an initial rifampin-resistant isolate; patients with bone and joint disease, meningeal disease, or disease of the central nervous system; pediatric patients aged 0–14 years with miliary disease or a positive blood culture or a positive NAA from a blood specimen; and those who moved out of the country within 1 year of initiating treatment. Overall completion of therapy had remained at approximately 92%–93% from 1998 through 2008, but increased to 95%–96% from 2009 to 2013. In 2013, the latest year with available data, completion of therapy was 95.9%. Completion in ≤1 year increased from 63.4% in 1993 to 89.6% in 2013. The *Healthy People 2020* objective is completion of therapy in ≤1 year for 93% of patients (Objective IID-30, available at: https://www.healthypeople.gov/2020/topics-objectives/objective/iid-30). CDC is working with state and local health departments to determine and evaluate reasons for apparent delayed therapy completion, which might vary by jurisdiction.

Slide 32. Definition for *Mycobacterium tuberculosis* Genotyping in the United States. The schematic shows the sequential assignment of unique spoligotype and 12-locus MIRU-VNTR combination (PCRType) or 24-locus MIRU-VNTR combination (GENType).

Slide 33. National *Mycobacterium tuberculosis* Genotyping Surveillance Coverage, by Year, United States, 2004–2015. During 2004, the proportion of positive cultures with ≥1 genotyped isolate was 52.6%; during 2015, it was 96.1%. The national indicator for genotyping surveillance coverage is 94.0%.

Slide 34. Number and Percentage of Unique and County-GENType Clustered Cases, United States, 2013–2015. Unique cases are those with a spoligotype and 24-locus MIRU-VNTR (GENType) that does not match any other case in that county during the specified 3-year period. Clustered cases are ≥2 cases with matching spoligotype and 24-locus MIRU-VNTR (GENType) within a county during the specified 3-year period. During 2013–2015, 78% were unique cases, and 22% were clustered cases.

Slide 35. Number of County-Based *Mycobacterium tuberculosis* Genotype Clusters, by Cluster Size, United States, 2013–2015. A genotype cluster is defined as ≥2 cases with matching spoligotype and 24-locus MIRU-VNTR (GENType) within a county during the specified 3-year period. During 2013–2015, clusters occurred as follows: 958 2-case clusters; 233 3-case clusters; 115 4-case clusters; 48 5-case clusters; 31 6-case clusters; 14 7-case clusters; 17 8-case clusters; 10 9-case clusters; and 38 ≥10-case clusters.

Slide 36. *Mycobacterium tuberculosis* Genotype Clusters, by TB GIMS Alert Levels, United States, 2013–2015. Alert levels are 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 with the national distribution of that genotype. TB GIMS generates alert level notifications as follows: A "No alert" is indicated if LLRs are 0–<5; a "medium" is for LLRs of 5–<10; and a "high" alert is for clusters with LLRs ≥10. From 2013–2015, high alerts composed 6% of the total; medium alerts were 23%; and no alerts were 71%.

Appendixes

Appendix A

Tuberculosis Case Definition for Public Health Surveillance
(Revised May 13, 2009)

Clinical Description
A chronic bacterial infection caused by *Mycobacterium tuberculosis*, usually characterized pathologically by the formation of granulomas. The most common site of infection is the lung, but other organs 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 tuberculosis (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, and
- 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.*

* 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. canetii*, *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. canetii*, *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 Tuberculosis (RVCT). The only exception is the bacillus Calmette-Guérin (BCC) 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.

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:

1. Evidence of TB infection based on a positive tuberculin skin test result or positive interferon gamma release assay for *M. tuberculosis*, and
2. 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,

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 "Tuberculosis 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 Visitors[2]

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 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.

† *Border crosser* is defined by the U.S. Citizenship and Immigration Services[3] 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.

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 may 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 tuberculosis 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. canetii*, *M. caprae*, and *M. pinnipedii*. Although *M. microti*, *M. canetii*, *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. canetti*, *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 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 USCIS[3] 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 waiver[2]: All applicants who have tuberculosis disease and have been granted a waiver.

Class B1 TB, Pulmonary[2]:

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, Extrapulmonary[2]:

Applicants with evidence of extrapulmonary TB. Document the anatomic site of infection.

Class B2 TB, Latent TB Infection (LTBI) Evaluation[2]:

Applicants who have a tuberculin skin test (TST) of ≥10-mm induration but oth-

erwise 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 Evaluation[2]:
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 USCIS[3] 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*.

Waivers[2]: 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).

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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, health

care 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 115,000 *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 Tuberculosis 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 IS*6110*-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 PCRType 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 PCRType 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.

Recent transmission: Although the precise time interval is not well-defined, recent transmission for TB is often considered to be TB disease that is attributable to exposure 2–3 years before disease onset. That is, the chain of transmission spanning from exposure to source case through onset of symptoms for secondary cases is <3 years. Immunocompromised patients (e.g., patients with human immunodeficiency virus infection or diabetes) might be at a higher risk for acquiring TB disease.

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 IS*6110*-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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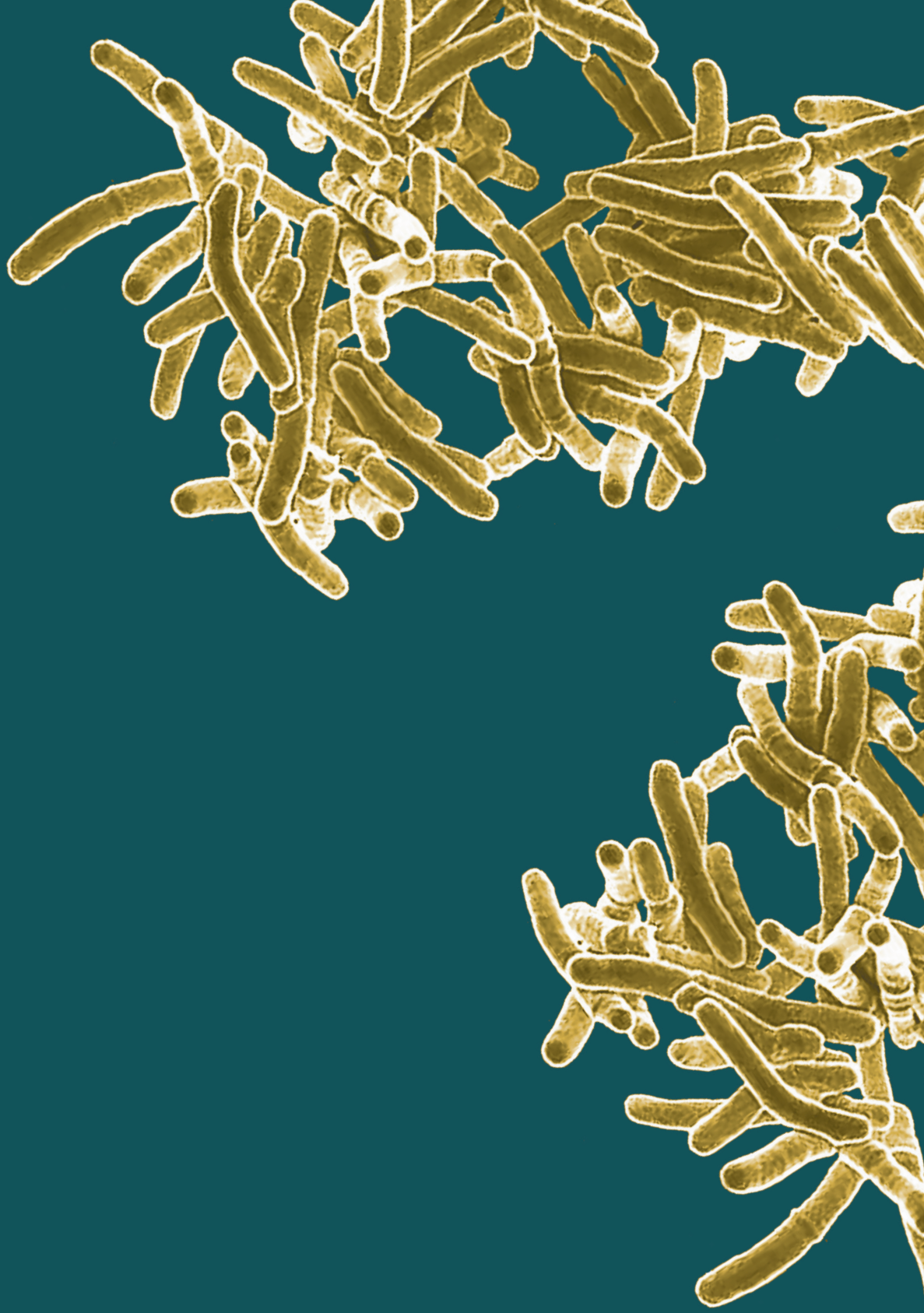

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