

# **Division of Tuberculosis Elimination Surveillance Data Re-release Policy**

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# National Tuberculosis Surveillance System (NTSS) and TB Latent Infection Surveillance System (TBLISS)

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# National Tuberculosis Surveillance System (NTSS) and TB Latent Infection Surveillance System (TBLISS) Data Re-release Policy

## About this Policy

This data re-release policy applies to tuberculosis (TB) surveillance data reported by 60 reporting jurisdictions to the Centers for Disease Control and Prevention (CDC), Division of Tuberculosis Elimination (DTBE). This policy supersedes previous data re-release policies.

At present, there are two sources of public use data for NTSS: the Online Tuberculosis Information System (OTIS) and the National Center for HIV, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) AtlasPlus. Both of these data sources adhere to the provisions of this data re-release policy. In future years, technological advances might lead to the development of new data display tools within CDC. Should that occur, an equal level of data security and confidentiality protection shall be provided consistent with this policy and the CDC Assurance of Confidentiality.

As long as patient confidentiality is maintained, CDC will re-release data at the national, state, county, and metropolitan statistical area (MSA) and MSA subdivision levels. A minimum of five (5) cases for any geographic boundary smaller than the state is required in order to release data for that area. CDC will include cross tabulations by geographic level, sex, race/ethnicity (based on Office of Management and Budget (OMB) categories), age group, TB risk factors, and year of diagnosis. Potentially identifiable information including date of birth, dates associated with laboratory results, and geographic area smaller than the county level will not be released publicly.

A staff member of the DTBE Surveillance, Epidemiology, and Outbreak Investigations Branch (SEOIB), designated as the Data Steward, will clear all releases of surveillance data to ensure that the data are released according to the terms of this data release policy. All staff responsible for maintaining the confidentiality of TB data will be trained on the stewardship of confidential information. If there is any planned change in the confidentiality procedures or variable list (e.g., expansion, reduction, and aggregation of data), the TB data re-release policy will be reviewed by the Data Steward and other appropriate CDC staff members to determine whether revision is needed. If so, reporting areas will be notified and allowed to review and comment on the revision before it becomes final.

This policy fulfills the requirements established by the *CDC/ATSDR Policy on Public Health Research and Nonresearch Data Management and Access* (“the Policy”).<sup>1</sup> The goal of the Policy is to ensure that CDC balances the need to release data to the wide population as quickly as possible with the need to protect confidential and potentially identifiable information. The Policy applies to any Center, Institute, or Organization (CIO) or CDC Program that releases or shares data collected by U.S. State and Territorial Health Agencies related to a population’s health or exposure status. The CDC-Council of State and Territorial Epidemiologists (CSTE) Intergovernmental Data Release Guidelines Working Group (DRGWG) developed *CDC-ATSDR Data Release Guidelines and Procedures for Re-release of State-Provided Data*<sup>2</sup> to direct the

implementation of the Policy. This document describes DTBE data re-release policy and is consistent with the recommendations of the DRGWG and the Data Security and Confidentiality Guidelines for HIV, Viral Hepatitis, Sexually Transmitted Disease, and Tuberculosis Programs: Standards to Facilitate Sharing and use of Surveillance Data for Public Health Action.<sup>3</sup> This document is also in compliance with the Office of Science and Technology Policy (OSTP) Public Access Policy, Executive Office of the President, The White House.<sup>4</sup>

## **Assurance of Confidentiality**

NTSS data are based on information abstracted from the national TB case report form, the Report of Verified Case of Tuberculosis (RVCT). Data collected in the RVCT are received electronically and securely from reporting areas utilizing the National Electronic Disease Surveillance System platform. RVCT data have been reported to CDC by the state and local health departments in the 60 reporting areas (all 50 states, the District of Columbia, New York City, Puerto Rico, and 7 other jurisdictions in the Pacific and Caribbean) since 1993. The most recent revision of the RVCT was implemented in 2021–2022.<sup>5</sup> Tuberculosis Latent Infection Surveillance System (TBLISS) contains a subset of RVCT variables that are relevant to cases of latent TB infection (LTBI). TBLISS data collection has been approved by OMB as part of National Notifiable Diseases Surveillance System, but as of March 2022, LTBI is only under “standardized surveillance” and is not currently designated as nationally notifiable by CSTE.

DTBE has obtained permission to provide an Assurance of Confidentiality (Sections 306 and 308(d) of the Public Health Service Act, 42 U.S.C / 242k and 242m(d)) to providers of NTSS and TBLISS data (see **Appendix A**). The 308(d)-confidentiality assurance protects identifiable and potentially identifiable information from being used for any purpose other than the purpose for which it was collected unless the person or establishment from which it was obtained has consented to such use. This Assurance protects against disclosures under a court order and provides protections that the Privacy Act of 1974 (5 USC 552a) does not. For example, the Privacy Act of 1974 protects individual participants, but the 308(d) confidentiality assurance also protects institutions. Confidentiality protection granted by CDC promises participants and institutions that their data will be shared only with those individuals and institutions listed in the project’s consent form or in its specified policies.

## Section 1: About NTSS Public-Use Datasets

### *Part A: Introduction*

For purposes of this policy, a public-use data set is defined as a data set that is intended for use by the general public. It contains data that have been modified as needed, according to accepted confidentiality procedures, to eliminate the risk of inadvertent or intentional disclosure of a patient's identity or confidential information.<sup>3, 6-9</sup>

NTSS public-use datasets (e.g., OTIS and NCHHSTP AtlasPlus) contain information reported to CDC on verified TB cases in the United States. Individual TB case information is collected at the local and state level and transmitted to DTBE, CDC, via secure electronic reporting systems. TB programs are funded by DTBE through a cooperative agreement to collect and report individual case data to CDC for surveillance purposes. Individual case data are submitted electronically using the RVCT, which contains demographic and diagnostic information, the results of TB drug susceptibility testing, risk factors for TB disease, and treatment outcomes.

### **OTIS**

For OTIS, once the data set is extracted from the NTSS database, it is loaded into relational tables for use on CDC's Wide-ranging Online Data for Epidemiologic Research (WONDER) application (<http://wonder.cdc.gov/>). WONDER provides secure access to data stored on Microsoft SQL servers inside the CDC firewall and makes public data sets available to anyone with internet and a standard HTML web-browser (e.g., Microsoft Edge or Chrome), thus expanding public access to CDC data sets. WONDER conforms to CDC network and security policies and standards and therefore takes steps to ensure the confidentiality of the information presented. Some of these steps include the following: 1) locating the web server between firewalls and on a special restricted subset of the network (i.e., sub-net) that provides additional security; 2) locating the data service inside full (all) CDC firewalls; and 3) restricting connectivity to both the web server and data server to authorized personnel.

### **NCHHSTP ATLASPLUS**

NCHHSTP AtlasPlus was created to provide an interactive display platform for accessing data collected by CDC's NCHHSTP. This interactive tool provides CDC an effective way to disseminate data, while allowing users to observe trends and patterns by creating detailed reports, maps, and other graphics. Currently, AtlasPlus provides interactive maps, graphs, tables, and figures showing geographic patterns and time trends of HIV, viral hepatitis, tuberculosis, chlamydia, gonorrhea, and primary and secondary syphilis surveillance data.

OTIS and ATLAS abide by confidentiality procedures that are determined through careful examination of the data by DTBE staff and state and local data providers (see **Appendix B**).

## **Part B: TB Surveillance in the United States**

### **History of National TB Surveillance Data**

TB is a nationally notifiable disease and reporting is mandated by state and local public health law in all states. In 1953, a national TB surveillance system was established to collect aggregate data on all reported cases of TB in the United States. In 1985, all states in the U.S. and some large cities began reporting case-based data for each reported case of TB to CDC using the RVCT. In 1993, DTBE, in conjunction with state and local health departments, implemented an expanded TB surveillance system. As part of the expanded system, a software package, the Surveillance Software for Tuberculosis (SURVS-TB), was designed and implemented for data entry, analysis, and transmission of case reports to CDC. In 1998, the Tuberculosis Information Management System (TIMS), a windows-based information system, replaced SURVS-TB. In 2009, the RVCT was revised after consultation with a workgroup of TB experts, and TIMS was replaced by secure electronic reporting systems. In 2021–2022, further revisions to the RVCT are being implemented after input from TB experts to accommodate the rapidly changing technology surrounding molecular detection of *M. tuberculosis* complex and incorporate other changes to the RVCT.<sup>5</sup>

### **Case Definition**

A verified case of TB for public health surveillance may be laboratory confirmed or, in the absence of laboratory confirmation, meet the clinical case definition (See **Appendix C**). The criteria for determining a laboratory confirmed case are 1) isolation of *M. tuberculosis* complex from a clinical specimen; or 2) demonstration of *M. tuberculosis* complex from a clinical specimen by nucleic acid amplification test; or 3) 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.<sup>10</sup>

A clinically verified case of TB must meet all of the following criteria: 1) a positive tuberculin skin test or positive interferon gamma release assay for *M. tuberculosis*; 2) other signs or symptoms compatible with TB (e.g., abnormal chest x-ray, abnormal chest computerized tomography scan or other chest imaging study, or clinical evidence of current disease); 3) treatment with two or more anti-TB medications; and 4) a completed diagnostic evaluation.

### **Case Count**

A case is counted only once within any consecutive 12-month period. However, a case occurring in a patient who had verified TB disease in the past should be reported and counted again if more than 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 greater than 12 months and TB disease can be verified again. Mycobacterial diseases other than those caused by *M. tuberculosis* complex should not be counted in TB morbidity statistics unless there is concurrent TB.<sup>11</sup>

CDC's national morbidity reports have traditionally counted all cases: those that meet the standard published case definition and those that are verified by the reporting areas. When the standard case definition is not met, areas are given the option of verifying using other sets of local criteria such as contact to an infectious case or immunosuppression status. In this circumstance, the criteria used to verify the case of TB are categorized as "Provider Diagnosis."<sup>11</sup>

For more details about counting TB cases, refer to *Recommendations for Counting Reported Tuberculosis Cases*, Appendix B in the TB annual surveillance report, *Reported Tuberculosis in the United States*.<sup>11</sup>

## **RVCT**

From 1985 through 1992 verified cases of TB were reported to CDC using the RVCT form. Some health departments, however, reported cases in the format of the RVCT via magnetic tape, diskette, or remote bulletin board. During 1993–1997, all data were reported using the expanded RVCT form, entered into SURVS-TB and transferred to CDC via diskettes. During 1998–2008, data were transferred to CDC via TIMS. Since 2009, RVCT data have been received through the reporting areas' secure electronic reporting systems. Directly identifying information, such as the patient's name, complete address, and Social Security Number, is retained at the state and local level. CDC does not receive names, complete addresses, or Social Security Numbers of persons reported as TB cases.

## **Surveillance Data Completeness and Accuracy**

Formal evaluation of the completeness and accuracy of TB data assists health departments in developing strategies to improve the completeness of reporting, communicate with reporting sources, correct deficiencies in health-care provider knowledge about reporting TB, and improve evaluation of patients with possible TB. Formal evaluations of TB surveillance in the United States have found the completeness of reporting of TB cases to state health departments varies, depending on the type and jurisdiction of the study. A 1993–1994 multisite study found reporting to be greater than 95%<sup>12</sup>, while other studies found ranges of data completeness between 72% and 99% depending on the methodology used.<sup>13-15</sup>

Data completeness is essential for producing annual TB surveillance reports and generating official TB statistics. DTBE takes a number of steps to ensure that the RVCT information received through electronic systems from reporting areas is both complete and high quality. Throughout the year, DTBE surveillance staff produce internal reports that include frequencies and cross tabulations on certain variables. The staff then evaluate the data for quality (e.g., do the data make sense and are any conflicting data present) and contact reporting areas when inconsistencies exist. Reporting areas then have the opportunity to review the case and update the data in NTSS. In addition, DTBE finalizes its TB case counts once a year. These data are published in the annual TB surveillance report<sup>16</sup> (<https://www.cdc.gov/tb/statistics/default.htm>) and other official publications.<sup>17</sup> As part of the process for finalizing the case count, DTBE staff consider the percentages of data that are unknown or missing and follow up with reporting areas that exceed predetermined levels of data incompleteness specific to each variable. If acceptable levels of completeness for each variable are not attained, those data will not be published in the annual TB surveillance report.

## **Part C: Requests for State/Local Data and Notification of States**

The Freedom of Information Act (FOIA) (<http://www.cdc.gov/od/foia/foi.htm>) generally provides that, upon written request from any person, a Federal agency (e.g., CDC) must release any agency record unless that record falls (in whole or part) within one of nine exemptions. FOIA applies to

only Federal agencies and covers only records in the possession and control of those agencies at the time of the FOIA request (except in certain narrow instances involving grantee-held data). Because data collected at the state level become a federal record in CDC's possession, such records are subject to disclosure in response to a FOIA request. The FOIA exemptions that may be available to protect some aspects of state data from public disclosures in response to an FOIA request are 1) Exemption 3, which specifically exempts information from disclosure by statute (in this instance pursuant to an Assurance of Confidentiality under Section 308(d) of the Public Health Service Act) and 2) Exemption 6, which exempts personnel and medical files and similar files, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy. In general, non-FOIA requests for state and local TB incidence data made to CDC from the public, media, and government agencies are referred to CDC-published reports and public-use data sets, as well as forwarded to state or local health departments for a reply. State and local health departments have the most up-to-date and complete data and are therefore in a better position to provide and interpret data for the individual requesting information. For this reason, state or local health departments are deemed the best sources for local inquiries.

Data requests received by DTBE's SEOIB are completed on a priority basis and released at the discretion of the SEOIB Chief or designee. Requests for information beyond the scope of this agreement and that are deemed necessary by the SEOIB Chief or designee will be considered on a case-by-case basis and the data released according to standards described in the CDC Assurance of Confidentiality and this data re-release policy.

## **Section 2: Public-Use Data Sets**

### ***Part A: OTIS***

A combination of confidentiality procedures are employed for OTIS. The data set contains no information that is identifiable or potentially identifiable according to currently accepted procedures for reducing disclosure risk. Prior to finalization, the data shown on OTIS is analyzed by DTBE and data providers to determine the need to employ cell suppression procedures, data aggregation, or both. Data providers have an opportunity to review their data before OTIS is released and have adequate time to notify CDC if any problems are identified. As a convenience, reporting areas may request from CDC a copy of the complete state-specific analytic database that is used to create OTIS. Following the analysis, additional confidentiality procedures are applied as needed. This follows the OMB guidelines regarding the risk assessment related to the release of new data.<sup>6-7</sup> OTIS complements the TB surveillance data published in the annual TB surveillance report, *Reported Tuberculosis in the United States*.<sup>16</sup> The data for both OTIS and the annual TB surveillance report are from the same database that provides TB incidence data for publication. OTIS contains the aggregate counts and rates published in the annual TB surveillance report and enables users to obtain TB case counts of demographic, risk factor, clinical, and outcome information at the national, state, and MSA levels of geographic detail.



### **Part B: NCHHSTP ATLASPLUS**

AtlasPlus presents TB case report data submitted from all 50 states, District of Columbia, and Puerto Rico since 2003. TB data are presented by year of diagnosis, reporting area (state or territory), age group, race/ethnicity, and sex.

First released in 1993, the RVCT was expanded in 2009 to collect additional information for each reported TB case in order to better monitor trends in TB epidemiology and prevention. As of 2011, all reporting areas submit data to NTSS via TB Case Notification Messages following either the TB Message Mapping Guide v2 or TB/LTBI Message Mapping Guide v3. Refer to **Appendix B** for cell suppression rules to protect patient's confidentiality.

### **Technical Notes**

The technical notes for OTIS and AtlasPlus describe the data sources, level of geographic detail, variables including the derivation of calculated variables, case definitions, data completeness and quality, population denominator sources, methods for calculating incidence rates, limitations of the data, and the rationale for specific confidentiality procedures (**see Appendix D**).

### **Part C: Emergency and Provisional Data Releases**

Data are reported to NTSS throughout the year; data are frozen annually before becoming available for analysis and released via OTIS or AtlasPlus with any modifications needed to protect a patient's confidentiality. As a result, TB data are not released on an "emergency basis" as defined by the CDC Policy and, therefore, special steps do not need to be taken to prevent disclosure under these circumstances. Emergency release of statistics is handled on a case-by-case basis via written or oral requests to the Data Steward within the parameters and limitations established by the Assurance of Confidentiality.

Provisional data, defined by CDC as "a running count of infectious disease cases that have not been adjusted for variations in reporting procedures across different reporting areas or for delays in reporting," will be shared with CDC employees and contractors, reporting areas, and other partners, as needed, in order to facilitate quality reviews of data or the initiation of prevention and control activities by health officials and health-care providers. Provisional data for a subset of RVCT variables will also be summarized and published annually in the *Morbidity and Mortality Weekly Report*.

## **Section 3: NTSS Variables and Geographic Specificity**

### **Part A: Case Data Variables**

OTIS contains aggregate data for 26 variables collected on the RVCT. These variables were chosen, with concurrence and input from reporting area data providers, based on utilization, historical perspective, and resource limitations. The variables are divided into the following categories: case classification, demographic, clinical, risk factor, and outcome variables. Several variables, including completion of therapy and multidrug resistance, are derived from data collected on the RVCT.

AtlasPlus contains aggregate data for 5 variables collected on the RVCT, which are displayed by state, county (FIPS Code), year, number of cases, population, and rate.

**Part B: Geographic Levels of Detail**

OTIS data for all variables are shown at 4 geographic levels: national, state, county, and MSA. In some instances, however, data are not available for individual years or are aggregated in order to protect a patient’s confidentiality. This occurs primarily at the state, county and MSA level. MSAs are defined by OMB according to published Census Bureau standards as “a core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core.”<sup>18</sup> For Census Bureau purposes, MSAs must have at least one urbanized area with a population of greater than or equal to 50,000 and may include several cities and counties; it may also cross state boundaries. Due to the low incidence of TB and the need to ensure adequate privacy protection, OTIS includes only MSAs with 500,000 or greater population (the same as the annual TB surveillance report) during the reporting period. MSAs may change according to the annual population estimates.

AtlasPlus data for all 5 RVCT variables are shown at the state level. County level data will be shown according to the county-level suppression rules described in **Appendix B**.

**Part C: Variable Descriptions**

The variables, their description, and coding scheme are shown in the chart below. More complete variable definitions can be found in RVCT Instruction Manual at <http://www.cdc.gov/tb/programs/rvct/default.htm>

| OTIS Variable  | Description  | Coding Scheme  |
|--|--|--|
| Criteria Used to Verify a TB Case                        | Groups cases based on the criteria used to determine which part of the case definition was used to verify cases. | Positive culture result<br>Positive nucleic acid amplification test result<br>Positive smear/tissue result<br>Clinical case definition<br>Provider diagnosis |
| Year TB Case Was Counted<br>(also an AtlasPlus variable) | Year the case was verified and submitted to the CDC as part of the official case count.                          | OTIS: 1993–present<br>ATLAS: 2003–present  |
| Years Since Arrival in US (Non-U.S.–born only)           | For non-U.S.–born cases, the number of years since arrival in the U.S.   | <1 year<br>1–4 years<br>5–14 years<br>≥15 years<br>Unknown   |
| Sex<br>(also an AtlasPlus variable)                      | Biological sex at birth.   | OTIS: Male, Female, Unknown<br>AtlasPlus: Male, Female   |

|   |   |  |
|---|---|--|
| <p>Bridged Race/Ethnicity (effective April 14, 2014) (referred to as Race/Ethnicity in AtlasPlus)</p> | <p>Calculated by combining race and ethnicity variables into categories to determine the patient’s self-identified racial and ethnic category. Persons of Hispanic origin can be of any race. All other categories are non-Hispanic, single race. Beginning in 2003, the Asian or Pacific Islander category was split into Asian only or Native Hawaiian or Other Pacific Islander based on new categories defined by the U.S. Office of Management and Budget (OMB). However, for bridged race, the prior designation was kept in place. Also, a new category, Multiple Race (reported as &lt;1% of cases) was combined into "Not Reported."</p> | <p>OTIS:<br/> White, Non-Hispanic<br/> Black, Non-Hispanic<br/> Hispanic or Latino<br/> All Races<br/> American Indian or Alaska Native, Non-Hispanic<br/> Asian or Pacific Islander, Non-Hispanic<br/> Not Reported<br/> AtlasPlus: No "Not reported"</p>                                       |
| <p>Race/Ethnicity (new variable effective April 14, 2014)</p>   | <p>Calculated by combining race and ethnicity variables into categories to determine the patient’s self-identified racial and ethnic category. Persons of Hispanic origin can be of any race. All other categories are non-Hispanic, single race.</p>   | <p>American Indian or Alaska Native, Non-Hispanic<br/> Asian, Non-Hispanic<br/> Black or African American, Non-Hispanic<br/> Hispanic or Latino<br/> Multiple Race<br/> Non-Hispanic<br/> Native Hawaiian or Other Pacific Islander, Non-Hispanic<br/> White, Non-Hispanic<br/> Not Reported</p> |
| <p>Country of Birth</p>   | <p>Indicates if patient is U.S. or Non-U.S.-born. Non-U.S.-born refers to persons born outside the United States and its territories. Exceptions include persons born overseas to U.S. citizens, on military bases, etc.</p>  | <p>U.S.-born<br/> Non-U.S.–born<br/> Unknown</p>   |
| <p>Broad Age Groups (also an AtlasPlus variable)</p>  | <p>Indicates age group of patient at time of case report. Age groups are based on the patient’s age in the month and year the patient was reported to the health department as a person with suspected TB.</p>  | <p>0–4 years<br/> 5–14 years<br/> 15–24 years<br/> 25–44 years<br/> 45–64 years<br/> ≥65 years<br/> Unknown<br/> AtlasPlus: No Unknown</p>   |
| <p>Standard Age Groups</p>  | <p>Age group of patient at time of case report. Age groups are based on the patient’s age in the month and year the patient was reported to the health department as a person with suspected TB.</p>  | <p>&lt;1 year<br/> 1–4 years<br/> 5–14 years<br/> 15–24 years<br/> 25–34 years<br/> 35–44 years<br/> 45–54 years</p>   |

|   |   |   |
|---|---|---|
|   |   | 55–64 years<br>65–74 years<br>75–84 years<br>≥85 years<br>Unknown   |
| Vital Status at TB Diagnosis                        | Indicates whether the patient was alive or dead at the time of diagnosis. Patient is considered dead at diagnosis if deceased at the time the investigation of possible TB was initiated.   | Alive at TB Diagnosis<br>Dead at TB Diagnosis<br>Unknown  |
| Previous TB Diagnosis                               | Indicates if this patient has had a previous diagnosis of TB. Previous diagnosis is defined as having had verifiable disease in the past, been discharged (e.g., completed treatment) or lost to supervision for more than 12 consecutive months, and then had verifiable disease again.  | Case with previous TB diagnosis<br>Case without previous TB diagnosis<br>Unknown  |
| Site of Disease                                     | Indicates whether the site of disease is pulmonary, extrapulmonary, or both.  | Pulmonary only (in lungs)<br>Extrapulmonary only (Outside lungs)<br>Both<br>Unknown (includes <i>not stated</i> )                               |
| HIV Status  | Indicates the patient’s HIV status, based on published definitions. <sup>21</sup> Status is considered positive if the patient is tested for HIV and the lab result is interpreted as positive based on published criteria, if the patient has a documented history of previous positive HIV test or diagnosis of HIV infection, or this patient gives a history of a previous positive HIV test. | Negative result<br>Positive result<br>Unknown (includes indeterminate; refused test; test not offered; test done, results unknown; missing)     |
| Resident of Correctional Facility at TB Diagnosis   | Indicates whether patient was a resident of a correctional facility at the time the TB diagnostic evaluation was performed.   | No<br>Yes<br>Unknown  |
| Resident of Long-term Care Facility at TB Diagnosis | Indicates whether the patient was a resident of a long-term care facility at the time the TB diagnostic evaluation was performed.   | No<br>Yes<br>Unknown  |
| Homeless Within One Year Prior to TB Diagnosis      | Indicates whether the patient was homeless at any time within the 12 months prior to diagnosis.   | No<br>Yes<br>Unknown  |
| Occupation Within 24 Months Prior to TB Diagnosis   | Indicates the occupation of the patient within the 24 months prior to diagnosis.  | Health Care Worker<br>Correctional Employee<br>Migratory Agricultural Worker<br>Other Occupation<br>Multiple Occupations<br>Not Employed within |

|   |   |   |
|---|---|---|
|   |   | Past 24 Months<br>Unknown   |
| Injecting Drug Use Within Year Prior to TB Diagnosis    | Indicates whether the patient used an injecting drug within the year prior to diagnosis. Injecting drug use involves use of hypodermic needles and syringes for injection of drugs not prescribed by a physician.   | No<br>Yes<br>Unknown  |
| Noninjecting Drug Use Within Year Prior to TB Diagnosis | Indicates whether the patient used a noninjecting drug within the year prior to diagnosis. Noninjecting drug use involves the use of licensed or prescription drugs or illegal drugs that were not injected and were not prescribed by a physician.   | No<br>Yes<br>Unknown  |
| Excess Alcohol Use in Year Prior to TB Diagnosis        | Indicates whether the patient used alcohol to excess within the 12 months prior to diagnosis.   | No<br>Yes<br>Unknown  |
| Multidrug-Resistant TB (MDR)                            | Indicates if patient has an initial <i>M. tuberculosis</i> isolate resistant to at least isoniazid (INH) and rifampin (RIF).  | No<br>Yes<br>Unknown  |
| Directly Observed Therapy (DOT)                         | Indicates whether patient received directly observed therapy, defined as the direct visual observation by a health care provider or other reliable party of the patient's ingestion of medication. <sup>22</sup> Due to treatment related reporting delays, data are available with a two-year lag. | Self-administered therapy only<br>Directly observed therapy only<br>Both directly observed and self-administered therapy<br>Unknown |
| Completion of Therapy (COT) ≤1 Year                     | Indicates if the patient completed TB therapy in less than or equal to one year for patients with "uncomplicated" TB. Due to treatment-related reporting delays, data are available with a two-year lag.  | Displayed as a percentage (not a categorical variable)  |

| Additional AtlasPlus Variable | Description   | Coding Scheme   |
|-------------------------------|---|---|
| Population                    | Population denominators used in calculating TB rates were based on National Center for Health Statistics (NCHS) bridged-race population counts for 2000–2020. Refer to Technical Notes, Appendix E. | 2003–2020   |
| Rate                          | Rates are expressed as the number of cases reported each calendar year per 100,000 population.  | Each rate was calculated by dividing the number of cases for the calendar year by the population for that calendar year and then multiplying the number by 100,000. |

|                  |  |   |
|------------------|--|---|
| FIPS Code        | FIPS (Federal Information Processing Standards) Code is a unique identifier for a geographic entity. | States have two-digit FIPS Code, e.g., 01=Alabama |
| State and county | The state and county of the patient's residence at the time of TB diagnosis.                         | See cell-suppression rules in Appendix C.         |

## **Appendix A: Assurance of Confidentiality For the National Tuberculosis Surveillance System (NTSS) and TB Latent Infection Surveillance System (TBLISS), Centers for Disease Control and Prevention (CDC)**

The National Tuberculosis (TB) Surveillance System (NTSS) is a program operated by the Division of Tuberculosis Elimination (DTBE) within the National Center for HIV, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) at the Centers for Disease Control and Prevention (CDC). NTSS collects data on each verified case of TB reported in the United States for the purposes of describing the epidemiology of TB in the United States; facilitating TB outbreak detection and response; calculating indicators that are used by CDC, state, and local TB programs to evaluate program performance; and for epidemiologic and economic modeling projects as well as other special studies.

Report of Verified Case of Tuberculosis (RVCT) forms are completed by designated reporting areas using data obtained from local health departments, healthcare providers, and directly from people who have TB. The RVCT includes indirectly identifiable information on TB patients (e.g., date of birth, highly granular geographic data) as well as sensitive patient information including HIV status and other private health information and history of illegal or potentially stigmatizing activities (e.g., substance use, incarceration, and homelessness). RVCT data are transmitted to CDC using a secure data network. The only unique case identifiers that will be sent to CDC are the state and local case identification numbers, which are solely intended to facilitate communication about specific case records within CDC and between CDC and state and local health departments or other authorized parties about specific RVCT records. The state or local case identification numbers cannot be used by CDC to match an RVCT record to a specific patient's identity. After arriving at CDC, RVCT data are incorporated into the NTSS secure data warehouse, from which data are supplied to other data systems on the CDC network or exported for sharing with other authorized parties using secure data transmission methods. All CDC network systems use appropriate data security standards and require positive user authentication for access.

CDC will only publicly release NTSS data after taking appropriate steps to remove information that could be used to identify an individual TB patient. In some cases, access to indirectly identifiable information or limited NTSS data sets with identifiable information is required for public health purposes. Such potentially identifiable NTSS data or limited NTSS data sets will be made available on a temporary basis to CDC staff and CDC-approved external investigators only who have a demonstrated need for data access and who will use NTSS data only for public health purposes. The NTSS data sets will be provided to the external investigators through a data sharing agreement outlining permissible uses of data, requiring adherence to this Assurance, and abiding by necessary safeguards to protect the data. The protections of the Assurance continue even after the death of the individuals in this surveillance system. Voluntarily provided potentially identifiable information will not be disclosed to consumer advocacy groups; insurance companies; the news media; any party involved in civil, criminal, or administrative litigation; agencies of federal, state, or local government (except for public health purposes); or any other member of the public. The voluntarily provided information collected by CDC or its contractors as part of this activity that would potentially permit identification of individuals or institutions (e.g., patients or healthcare

institutions) is collected and maintained under Sections 304 and 306 of the Public Health Service (PHS) Act (42 USC 242b, 242k) with an assurance that it will be held in strict confidence in accordance with Section 308(d) of the PHS Act (42 USC 242m(d)). Such data will be used only for the purposes stated in this Assurance, and it will not otherwise be disclosed or released without the consent of the parties who were given this Assurance.



## Appendix B: Confidentiality Procedures for NTSS

### OTIS

- 1) Data are provided for Metropolitan Statistical Areas greater than or equal to 500,000 population.
- 2) OTIS users have the option of viewing demographic and risk factor variables at the state and MSA levels for two-time intervals, “previous 5 years” and “11 years” (all years included in data set). Demographic and risk factor variables include the following: Sex; Race/Ethnicity; Country of Birth; Broad Age Groups; Standard Age Groups; HIV Status; Resident of a Long-term Care Facility; Resident of a Correctional Facility; Homeless; Occupation; Injecting Drug Use; Noninjecting Drug Use; Excessive Use of Alcohol. No individual-year data will be provided for these variables. All other variables are available for all years, at all three geographic levels of detail (e.g., national, state, and MSA).
- 3) Years in U.S. variable is aggregated as follows:  
    <1 year; 1–4 years; 5–14 years; ≥15 years
- 4) Age data are aggregated into the following age categories:
  - a) Broad Age Groups: 0–4; 5–14; 15–24; 25–44; 45–64; ≥65.
  - b) Standard Age Groups: <1; 1–4; 5–14; 15–24; 25–34; 35–44; 45–54; 55–64; 65–74; 75–84; ≥85.
- 5) All cell values that are ≤5 at the state and MSA level are suppressed.
- 6) HIV data from the state of Louisiana and Vermont are suppressed. These totals for HIV appear in the national totals but are suppressed in any data from Louisiana and Vermont or MSAs from Louisiana and Vermont.

### NCHHSTP AtlasPlus

- 1) Data are provided by TB case rate, number of TB cases by state, population, and by year.
- 2) AtlasPlus users can view TB case rates, number of TB cases by state, population, year, and by county according to the county-level suppression rules described below:

#### County-level suppression

The display will show data for each year and each area:

- **County totals: Suppress the following:**
  - If total case count <5, all data for the county.
  - All county-level data for American Indians/Alaska Natives, Asians, Native Hawaiians/Other Pacific Islanders, and multiple races.

- **One-way stratification by age group, sex, and race/ethnicity: Suppress the following:**
  - Demographic populations with <5 total cases
    - By sex, if only one group is suppressed, then both groups (both males and females) should be suppressed.
    - By age group, if only one group is suppressed, then a second group should be selected for suppression.
    - By race/ethnicity, no secondary suppression is needed. All data for Asian persons, American Indian/Alaska Native persons, Native Hawaiian/Other Pacific Islander persons, or people of multiple races are suppressed, which will prevent back calculation of data for race groups of any one of the primary 3 racial/ethnic groups (White persons, Black/African American persons, Hispanic/Latino persons).

## **Appendix C: Tuberculosis Case Definition for Public Health Surveillance (Revised May 13, 2009)**

Please read full document by clicking on the link below:

<https://www.cdc.gov/tb/statistics/reports/2020/Appendix-A.html>

## **Appendix D: Technical Notes**

Please read full document by clicking on the link below:

[https://www.cdc.gov/tb/statistics/reports/2020/Tech\\_Notes.html](https://www.cdc.gov/tb/statistics/reports/2020/Tech_Notes.html)

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