**PREVENTION AND CONTROL**

**NTIP Summary Report**

*Source*: 2020 data (accessed 7/6/21)

 2021 Q1 and Q2 data (accessed 7/6/21)

|  |  |  |  |
| --- | --- | --- | --- |
| **National TB Program Objective** | **2025 Target** | **2020 Result** | **2021 Result** |
| **Q1** | **Q2** |
| **Goals for Reducing TB Incidence (incidence per 100,000 population)** |
| TB Incidence | 1.3 | 1.7\* | 0.22§ | 0.40§ |
| U.S.-born Persons | 0.4 | 0.9\* | 0.11§ | 0.20§ |
| Non-U.S.-born Persons | 8.8 | 15.4\* | 2.1§ | 3.7§ |
| U.S.-born, Non-Hispanic Blacks | 1.0 | 3.1\* | 0.54§ | 0.63§ |
| Children Younger than 5 Years of Age | 0.1 | 0.5\* | 0.0§ | 0.00§ |
| **Objectives on Case Management and Treatment (%)** |
| Known HIV Status | 99.0 | 96.4\* | 100§ | 96.0\*§ |
| Treatment Initiation | 96.0 | 96.4\* | 100§ | 87.5\*§ |
| Recommended Initial Therapy | 97.0 | 94.5\* | 100§ | 88.0\*§ |
| Sputum Culture Result Reported | 99.0 | 96.8\* | 100§ | 88.2\*§ |
| Sputum Culture Conversion | 83.0 | 91.9 | 71.4\*§ | 20.0\*§ |
| Completion of Treatment | 95.0 | 62.5\*§ | 0.0\*§ | 0.0\*§ |
| **Objectives on Laboratory Reporting (%)** |
| Turnaround Time—Culture | 78.0 | 59.7\* | 37.5\*§ | 30.8\*§ |
| Turnaround Time—NAA | 97.0 | 74.1\* | 100\*§ | 100\*§ |
| Drug-Susceptibility Testing | 100 | 96.5\* | 90.0\*§ | 78.9\*§ |
| Universal Genotyping | 100 | 96.5\* | 90.0\*§ | 89.5\*§ |
| **Objectives on Contact Investigations (preliminary 2020 ARPE data) (%)** |
| Contact Elicitation | 100 | 90.0\*§ | -- | -- |
| Contact Examination | 94.0 | 85.3\*§ | -- | -- |
| LTBI Treatment Initiation | 92.0 | 72.5\*§ | -- | -- |
| LTBI Treatment Completion | 93.0 | 86.5\*§ | -- | -- |
| **Objectives on Examination of Immigrants and Refugees (%)** |
| Examination Initiation | 72.0 | 56.0\* | 78.6\*§ | 31.2\*§ |
| Examination Completion | 78.0 | 56.0\* | 50.0\*§ | 25.0\*§ |
| LTBI Treatment Initiation | 87.0 | 50.0\* | 0.0\*§ | -- |
| LTBI Treatment Completion | 87.0 | 100 | -- | -- |
| **Indicators for Date Reporting (%)** |
| RVCT | 100 | 96.6\*§ | 89.1§ | 81.5\*§ |
| ARPE | 100 | 88.9\*§ | -- | -- |
| EDN | 93.0 | 75.1\*§ | 63.0\*§ | 35.6\*§ |

\*Indicator not met

§Data are preliminary

**Strategies/Activities/Accomplishments/Barriers**

|  |
| --- |
| **Strategy/Activity: Diagnosis/treatment of persons with TB disease** |
| **Short-Term Outcome** | **Planned Program Activities** | **Accomplishments** | **Barriers** |
| Increase in cases with HIV and drug susceptibility results | Ensure that HIV testing is offered to all confirmed and suspected cases of TB. For hospitalized patients, health departments should review hospital records for HIV result; if no result, ask hospital to draw HIV or draw HIV at first post-hospital clinic visit. For culture-positive specimens collected by non-public health entities, ensure that (1) a DST is ordered or (2) a specimen is sent to the state public health lab for DST. Encourage health department to collect specimen from hospital for transport to state lab, when feasible. |  | Delayed data entry due to TB staff working on COVID-19 pandemic |
| Increase in patients on/responding to appropriate treatment | Continue use of therapeutic drug monitoring (TDM) for patients who are slow to convert AFB smears and cultures and for patients with risk factors for malabsorption. Use CDC’S MDDR service when drug resistance is suspected, when appropriate. Expand use of electronic DOT (eDOT). | On February 4, 2021 the Tennessee TB Elimination Program (TTBEP) recommended using TDM for all adult (≥18 years of age) persons with suspected or confirmed TB disease after receiving initial two (2) weeks of TB treatment. In 2020, specimens on 15 patients were sent for MDDR testing and resistance was identified in four (26.7%). In the first six months of 2021, specimens on five (5) patients were sent and resistance was detected on one (20.0%).In 2020, the Tennessee TB Elimination Program purchases licenses for emocha® for synchronous and asynchronous eDOT. Two (2) regional TB programs piloted this platform. In 2021, the TTBEP purchased additional licenses for statewide implementation. |  |
| **Strategy/Activity: Diagnosis/treatment of persons with latent TB infection (TBI)** |
| **Short-Term Outcome** | **Planned Program Activities** | **Accomplishments** | **Barriers** |
| Increase in the number of contacts elicited/examined (contacts to infectious TB cases) |  |  |  |
| Increase in treatment initiation for patients with LTBI who are recommended for treatment (contacts to infectious TB cases) |  |  |  |
| Increase in treatment initiation for patients with LTBI/prior pulmonary TB who are recommended for treatment (Class B notifications) |  |  |  |
| Targeted Testing and treatment of TB infection (TBI) in high-risk populations |  |  |  |
| **Strategy/Activity: Program planning, evaluation and improvement** |
| **Short-Term Outcome** | **Planned Program Activities** | **Accomplishments** | **Barriers** |
| Increase in identification/dissemination of best practices within and between state/local programs |  |  |  |
| **Strategy/Activity: Surveillance** |
| **Short-Term Outcome** | **Planned Program Activities** | **Accomplishments** | **Barriers** |
| Increase in national accuracy and completeness of surveillance, genotyping, and whole-genome sequencing data |  |  |  |
| Increase in cases genotyped and linked to surveillance data |  |  |  |
| **Strategy/Activity: Human resources development (HRD) and partnerships** |
| **Short-Term Outcome** | **Planned Program Activities** | **Accomplishments** | **Barriers** |
| Increase in availability/accessibility of competency-based education/training |  |  |  |
| **Strategy/Activity: Laboratory Strengthening** |
| **Short-Term Outcome** | **Planned Program Activities** | **Accomplishments** | **Barriers** |
| Decrease in TATs for specimen receipt, acid-fast bacillus smear, NAA identification, identification of MTBC, and growth-based or molecular drug-susceptibility testing |  |  |  |

**Collaborations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Outcome**  | **Planned Program Activities** | **Accomplishments** | **Barriers** |
| Collaborate with CDC programs and CDC-funded organizations |  |  |  |
| Collaborate with organizations not funded by CDC |  |  |  |

**Target Populations and Health Disparities**

|  |  |  |  |
| --- | --- | --- | --- |
| **Outcome**  | **Planned Program Activities** | **Accomplishments** | **Barriers** |
| Collaborate with partners throughout Tennessee that serve high-risk populations |  |  |  |
| Provide plain language educational materials in 10 most commonly spoken languages of TB and TBI patients |  |  |  |

**Work Plan**

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| --- |
| **Strategy 1: Diagnosis/Treatment of Persons with TB Disease** |
| **Related Outcome** | **Measure of Success** |
| 1. Earlier patient diagnosis; (2) increase in TB cases with HIV results; (3) cases with drug-susceptibility testing (DST) results; (4) patients on/responding to appropriate treatment
 | National TB Indicator Project (NTIP) objectives for case management and treatment can be accessed at: <https://www.cdc.gov/tb/programs/evaluation/indicators/default.htm>  |
| **Objectives** | **Activities** | **Timeline** | **Success** | **Barriers** |
| For patients with newly diagnosed TB disease for whom ≤12 months of treatment is indicated, increase the proportion who complete treatment within 12 months. | Review all case records; identify opportunities for use of incentives and enablers; cohort review with two (2) public health regions; review NTIP quarterly ensure case management of all TB patients; utilize eDOT; utilize therapeutic drug monitoring (TDM) | 95% by 2025 | 1. Weekly report is

generated to monitor treatment progress at 3-, 6-, 9-, and 12-month intervals; (2) cohort review held with one regional TB program; (3) 2/4/21: recommended use of TDM for all adults with suspected and confirmed TB disease after receiving two weeks of treatment; piloting of emocha® asynchronous eDOT platform with two public health regions in 2020 (4) statewide implementation of emocha®  | Statewide and regional TB staff were involved in the COVID-19 response; one regional TB program was unable to conduct a cohort review due to the COVID-19 pandemic; operational hours of the University of Florida pharmacokinetics lab (e.g., during tropical storms/hurricanes) and transport issues were barriers to collecting TDMs; technological issues with emocha®; utilization of CDC’s MDDR lab services for early detection of resistance to ensure proper treatment regimen |
| For TB patients with positive AFB sputum smear results, increase the proportion who initiated treatment within 7 days of specimen collection | Identify providers/entities that do not start patients on treatment within 7 days of specimen collection; ensure case management of all persons with suspected or confirmed TB; review NTIP quarterly | 96% by 2025 | Upon notification of a person with suspected or confirmed TB disease that is hospitalized, regional TB case managers have increase efficiency in collecting a specimen for testing at the state public health lab and educating providers on the importance of initiating treatment when TB is suspected | Delayed notification of persons with suspected or confirmed TB disease to health departments from non-public health providers; COVID-19 possibly resulted in delayed diagnosis and treatment initiation. |
| Increase the proportion of TB patients who have a positive or negative HIV test reported | Ensure case management for all persons with suspected or confirmed TB disease; ensure opt-out for all patients receiving a TST or QFT; education providers on the importance of collecting HIV when testing for TB infection; quarterly cross match with HIV program database | 99% by 2025 |  | Delayed data entry |
| For patients whose diagnosis is likely TB disease, increase the proportion who are started on the recommended initial 4-drug regimen | Create a database of all persons with suspected or confirmed TB disease and regimen initiated; educate providers on the importance of initiating 4-drug regimen for all persons with suspected or confirmed TB disease, ensure access to recommended 4 drugs for all patients | 97% by 2025 | Regional TB clinicians are asked to provide rationale to statewide TB medical director and nurse consultant manager if a non-standard TB regimen is prescribed for any patient  |  |
| For patients aged ≥12 years with a pleural or respiratory site of disease, increase the proportion who have a sputum culture result reported | Ensure case management for all persons with confirmed TB disease; identify processing lab for hospitals statewide; identify which commercial laboratories do reflex TB testing; ensure providers are aware of reportable conditions and timeframes | 99% by 2025 |  | Delayed data entry |
| For patients with positive sputum culture results, increase the proportion who have documented conversion to negative within 60 days of treatment initiation | Maintain sputum culture conversion log; ensure case management for all persons with confirmed TB disease; maintain laboratory summary log | 83% by 2025 | Statewide sputum culture conversion rate has increased over the past four (4) years; increase use of therapeutic drug monitoring |  |
| **Strategy 2A: Contact Investigation for Infectious Cases** |
| **Related Outcomes** | **Measures of Success** |
| Increase in (1) contacts elicited/examined and (2) contacts initiating/completing LTBI treatment | National TB Indicator Project (NTIP) objectives for contact investigation can be accessed at: <https://www.cdc.gov/tb/programs/evaluation/indicators/default.htm>  |
| **Objectives** | **Activities** | **Timeline** | **Successes** | **Barriers** |
| For TB patients with positive AFB sputum smear results, increase the proportion who have contacts elicited  | Ensure that all staff conducting contact investigations are adequately trained in contact investigation; assess contact investigation data to determine if re-interviews of index patients are needed.  | 100% by 2025 |  |  |
| For contacts to sputum AFB smear positive TB cases, increase the proportion who are examined for infection and disease | Ensure all regional TB clinicians know the criteria for “fully evaluated”; ensure that contact investigations are prioritized according to Tennessee TB Elimination Program (TTBEP) Manual | 94% by 2025 |  |  |
| For contacts to sputum AFB smear positive TB cases diagnosed with latent TB infection, increase the proportion who start treatment  | Ensure providers provide culturally appropriate education about TB infection and progression to active TB disease; ensure contacts are prioritized for treatment according to TTBEP Manual | 92% by 2025 |  |  |
| For contacts to sputum AFB smear positive TB cases who have started treatment for latent TB infection, increase the proportion who complete treatment | Increase use of 12-week isoniazid/rifapentine regimen; expand use of electronic directly observed therapy (eDOT); ensure case management of persons with confirmed TB infection (TBI) |  |  | Nitrosamine impurities in rifamycins – use of rifapentine |
| **Strategy 2B: Examination of Immigrants and Refugees**  |
| **Related Outcomes** | **Measures of Success** |
| Increase in (1) treatment initiation for patients with LTBI/prior pulmonary TB who are recommended for treatment and (2) LTBI diagnoses and high-risk patients who initiate treatment | National TB Indicator Project (NTIP) objectives for examination of immigrants and refugees can be accessed at: <https://www.cdc.gov/tb/programs/evaluation/indicators/default.htm>  |
| **Objectives** | **Activities** | **Timeline** | **Successes** | **Barriers** |
| For immigrants and refugees with abnormal CXRs read overseas as consistent with TB, increase the proportion who initiate a medical examination within 30 days of notification | Identify barriers that increase the amount of time between notification and examination; increase the number of clinic-level users for EDN; provide regional TB programs with 30-day timeframe from date of notification | 72% by 2025 |  |  |
| For immigrants and refugees with abnormal CXRs read overseas as consistent with TB, increase the proportion who complete a medical examination within 120 days of notification | Provide regional TB program managers with 90-day target dates for each B-notification received; follow-up with regional TB program managers as the 90-day deadline approaches | 78% by 2020 |  |  |
| For immigrants and refugees with abnormal CXRs read overseas as consistent with TB who are diagnosed with LTBI or have radiographic findings consistent with prior pulmonary TB on the basis of examination in the U.S., for whom treatment was recommended, increase the proportion who start treatment | Ensure culturally sensitive education is provided; partner with agencies providing primary care to immigrants/refugees; ensure providers stress the importance of treatment for TB infection and the possibility of progressing to active TB disease if untreated; ensure educational materials are translated and in plain language | 87% by 2025 |  |  |
| For immigrants and refugees with abnormal CXRs read overseas as consistent with TB who are diagnosed with LTBI or have radiographic findings consistent with prior pulmonary TB on the basis of examination in the U.S., and who have started on treatment, increase the proportion who complete treatment | Ensure case management of patients with TB infection; increase use of 12-week isoniazid/rifapentine regimen; use incentives/enablers when appropriate; partner with agencies providing primary care to immigrants/refugees; ensure information is provided in the patient’s primary language  | 87% by 2025 |  | Nitrosamine impurities in rifamycins – use of rifapentine |
| **Strategy 2C: Focused Testing and Treatment of TB Infection (Program-Identified)** |
| **Related Outcomes** | **Measures of Success** |
| Increase in: (1) treatment initiation for high-risk patients diagnosed with TB infection; (2) treatment completion for patients diagnosed with TB infection who initiate treatmentDecrease in (1) number of patients diagnosed with TB infection who progress to active TB disease | 1. 100% of regional TB programs will identify at least one high-risk population for prioritized education and TB infection testing activities; (2) regional TB programs will establish regional education and testing benchmarks; (3) regional TB programs will establish regional treatment initiation benchmarks for each high-risk population identified; (4) regional TB programs will identify treatment completion benchmarks for each high-risk population identified **(NOTE: New measures of success)**
 |
| **Objectives** | **Activities** | **Timeline** | **Successes** | **Barriers** |
| Implement “Community Partnerships to End TB (CPETB)” initiative statewide | Conduct meetings with leadership of each regional TB program |  |  |  |
| Identify of at least one (1) high-risk population by each regional TB program for focused education and testing for TB infection | Provide county- and regional-level TB and TB infection (TBI) data to each regional TB program manager |  |  |  |
| Provide education, screening, and testing activities for identified high-risk populations | Assist regional TB programs with the development of plan to screen and test high-risk population that include culturally-appropriate and plain language educational materials |  |  |  |
| **Strategy 3: Program Planning, Evaluation, and Improvement** |
| **Related Outcomes** | **Measures of Success** |
| Increase in (1) identification/dissemination of best practices internally and externally; (2) annual progress toward or meeting NTIP objectives; and (3) using findings to inform programmatic changes | 1. Annual increase in programmatic NTIP performance and (2) annual review and update of Tennessee TB Elimination Program Manual
 |
| **Objectives** | **Activities** | **Timeline** | **Successes** | **Barriers** |
| Develop a program evaluation plan | Review NTIP indicators; develop SMART objectives |  |  |  |
| Implement a program evaluation plan | Develop program evaluation committee; execute planned activities; monitor and report findings |  |  |  |
| Develop strategies to implement activities to address finding of program evaluation plan | Solicit input from regional TB programs; review program evaluation plan; update plan as needed |  |  |  |
| **Strategy 4: Epidemiologic Surveillance and Response** |
| **Related Outcomes** | **Measures of Success** |
| Implementation of the 2020 RVCT **(new)**; increase in: (1) accuracy and completeness of surveillance, genotyping, and WGS data; (2) linkage of genotyping and surveillance data; (3) availability  |  |
| **Objectives** | **Activities** | **Timeline** | **Successes** | **Barriers** |
| Implement the 2020 RVCT **(new)** | Work with Surveillance Systems and Informatic Program (SSIP) to ensure implementation of the 2020 RVCT page into the NEDSS-based system | December 31, 2022 |  |  |
| Provide education and training for regional TB program staff on 2020 RVCT **(new)** | Develop education and training material; ensure use of plain language | December 31, 2022 | Training material developed |  |
| Ensure the completeness of each core RVCT data item reported to CDC | Provide quality assurance (QA) on TB case data prior to submission to CDC | 100% by 2025 |  |  |
| Ensure the completeness of each core ARPE data items reported to CDC | Review contact investigation data; provide quality assurance on ARPE data | 100% by 2025 |  |  |
| Ensure the completeness of each core TB Follow-Up Worksheet data item reported to CDC via the EDN system | Maintain state EDN database; review EDN data and provide quality assurance prior to final submission in EDN system | 93% by 2025 |  |  |
| Report PCRType, GENType, and WGS results and genotype matches to regional TB programs | Provide genotype data and cluster snapshot data to regional TB programs for each genotyped case |  |  |  |
| Transmit TB infection (TBI) data to CDC | Ensure state surveillance system contains all recommended LTBI variables; ensure HL7 messaging |  |  |  |

**2021 ACTIVITIES AND PROPOSED 2022 ACTIVITIES**

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| **Strategies and Activities Progress** |
| **Strategy** | **2021 Proposed Activities** | **2021 Narrative** | **2022 Proposed Activities** |
| Strategy 1: Diagnosis/Treatment of Persons with TB Disease | Continue use of Cepheid GeneXpert® statewide and increase communication to clinical partners on the benefit of utilizing GeneXpert® for rapid diagnosis and release from isolation. | For the first six (6) months of 2021, the Tennessee Department of Health, Division of Laboratory Services performed 84 GeneXpert® tests for 62 unique patients. Of those 84 tests, 18 (21.4%) were positive. Of the 18 positive results, four (22.2%) were initially smear-negative. | Ensure validation of the new Cepheid GeneXpert® equipment at the Tennessee Department of Health, Division of Laboratory Services. |
| Strategy 2A: Conduct Contact Investigations for Infectious Cases | Provide in-person trainings (if allowed) to new case managers and contact investigation staff. Identify patient education needs and work to meet those needs. | In 2021, one (1) new case manager training was held virtually for one (1) new staff member. | Develop “Conduct Investigation Summary” form to include ARPE variables to be completed for each case of TB upon completion of the contact investigation. Include this activity as a Standard of Public Health Practice in the revised Tennessee TB Elimination Program manual. |
| Strategy 2B: Evaluation of Immigrants and Refugees with TB or TBI | Evaluate the efficacy of adding additional clinic-level users to EDN. Continue to partner with Siloam Family Health Center. Evaluate the feasibility of partnering with other agencies that serve immigrant and refugee populations. | Feasibility of adding a clinic-level user for the region/clinic that receives the largest volume of EDN notifications. Due to technology limitations of the clinic, it was decided that adding a clinic-level user for this region was not feasible. The partnership with Siloam Family Health Center continued in 2021; however, health department staff presence in the facility as well as partnering with other agencies was temporarily held due to COVID-19. |  |
| Strategy 2C: Targeted Testing and Treatment of TBI in High-Risk Populations | Re-launch of the “Community Partnerships to End TB (CPETB)” initiative. | In June 2021, regional TB programs were queried on the feasibility of re-implementing the CEPTB initiative beginning in 2022 as well as identification of barriers to implementing. The initiative was reintroduced during a statewide call in June 2021 with an anticipated start date in early 2022. |  |
| Strategy 3: Program Planning, Evaluation, and Improvement | Implement program evaluation plan as outlined in the Tennessee Performance Management Plan submitted on July 20, 2020. |  |  |
| Strategy 4: Epidemiologic Surveillance and Response | Modify current TBI surveillance variables in statewide NEDSS-based system (NBS) to align with CDC-identified LTBI variables. Evaluate the feasibility of submitting TBI surveillance data to CDC. Implement revised RVCT and provide training.  | Due to the COVID-19 pandemic and the need for creating of surveillance pages for COVID-19, the TBI surveillance variable project was deferred. Implementation of the 2020 RVCT is dependent on creating of the page in NBS by a CDC vendor which has not occurred at the time of this report.  | Implement the 2020 RVCT and provide training to regional TB staff. Re-visit the feasibility of revising statewide TBI variables in NBS to align with CDC-identified variables. Provide refresher surveillance training to regional TB staff. Create a surveillance data “Best Practices” document for regional TB staff. |
| Strategy 5: Human Resources Development (HRD) and Partnerships | Evaluate the feasibility of conducting a TB Clinical Symposium and statewide meeting (canceled in 2020 due to COVID-19). Evaluate additional statewide agencies that serve high-risk populations and develop partnerships. | Due to the COVID-19 pandemic, restrictions on in-person meetings and attendance, and a short planning timeframe, a TB Clinical Symposium and statewide meeting was determined to be not feasible. Work to identify additional partners serving high-risk populations was temporarily postponed due to the COVID-19 pandemic. | Re-evaluate the feasibility of conducting a TB Clinical Symposium and statewide meeting. Collaborate with regional TB programs to identify external agencies statewide that serve high-risk populations. |

**Program Planning, Evaluation, and Improvement**

1. Results and Conclusions of 2020 Program Evaluation Activities
2. Remediation Plan
3. Background for 2021 Program Evaluation Focus Area
4. 2021 Program Evaluation Plan

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**Cohort Review**

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| --- | --- |
| **Element** | **Progress** |
| Date(s) of cohort review(s) | April 14, 2021 |
| Number of cases discussed (per review/total) | 8 |
| Summary of review process | Due to COVID-19, no cohort reviews were held in 2020.  |
| Key issues identified and resolved |  |
| Recommendations |  |
| New tools or trainings |  |

**HUMAN RESOURCE DEVELOPMENT**

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| --- | --- |
| **Activity** | **Narrative** |
| Description of use of HRD funds | For budget period 2020, planned uses of HRD funding included: annual statewide conference, travel and lodging for National TB conference, travel and lodging for regional staff to attend the Program Managers course, travel and lodging for the TB ETN/PEN conference, and travel for one regional TB program staff to attend the Comprehensive Clinical Course hosted by the Southeastern National TB Center (SNTC). The Tennessee TB program did not hold a statewide annual conference. In addition, the National TB Conference was virtual, therefore no HRD funds were used for travel and lodging to this conference. During 2020, one regional TB clinician attended the SNTC Comprehensive Clinical Course virtually (no funding was needed for travel and lodging). HRD funds for budget period 2020 were used to purchase registration for the virtual National TB Conference ($1,075). In addition, funds during this budget period were used for registration ($750) for the TB program medical director to attend The Union-North America Region (NAR) conference. At the time of this report, no HRD budget period 2021 has been spent. |
| Training courses provided | The Tennessee TB Elimination program held the following trainings:2020:* NEDSS-based system (NBS) training for new TB staff

2021:* New ARPE form training for regional TB staff
* New TB case manager training
* ARPE training for Ohio TB program staff
 |
| Training courses attended | 2020: 30 training events were attended by 91 state and regional TB staff2021: 21 training events were attended by 124 state and regional TB staff |
| Educational resources purchased or leased | Seventh Edition 2021 “Core Curriculum on Tuberculosis: What the Clinician Should Know” manuals were ordered free of charge and provided to each regional TB program and central office staff; “Radiographic Manifestations of Tuberculosis” 2nd edition from Curry International Center (free of charge) were ordered and sent to each regional TB program.  |
| Educational materials developed | 1. Tennessee TB Elimination Program emocha® User Guide
 |
| Description of collaboration with partners, such as those serving high-risk populations |  |
| Attendance at TB ETN conference and focal point meeting | There was no TB ETN conference held during 2020. |
| Salary for training and education personnel | The salary for the Tennessee TB Elimination Program’s Education and Training focal point is supported by state funding |

HRD Work Plan

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| **Strategy 5: Human Resource Development (HRD)** |
| **Related Outcomes** | **Measures of Success** |
| Increase in: (1) availability/accessibility of competency-based education; (2) awareness and use of HRD resources; (3) awareness of TB among patients, providers, and community; (4) capacity to diagnose/treat high-risk populations with TB infection (TBI) | 1. Number of training sessions held
2. Number of trainings attended
 |
| **Objectives** | **Activities** | **Timeline** | **Successes** | **Barriers** |
| Designate a staff member to serve as TB education and training focal point | Identify staff member to serve as TB education and training focal point. Include education and training activities in staff’s individual performance plan (IPP) with focused action steps **(new)** | Annually | Trudy Stein-Hart, epidemiologist, has served in the role of TB education and training focal point for the TB program for several years. A work outcome statement has been added to Trudy Stein-Hart’s IPP stating, “Serve as the Education and Training Network (ETN) focal point as required by the Centers for Disease Control and Prevention (CDC) Division of TB Elimination (DTBE) Cooperative Agreement. | Due to COVID-19 and several training and education opportunities that were planned by the TB program and would have involved extensive work for the education and training focal point were cancelled.  |
| Register focal point as a member of TB Education and Training Network (TB ETN) | TB ETN membership form completed and returned to CDC | Annually | Trudy Stein-Hart is currently a member of TB ETN | None identified |
| Identify Centers of Excellence (CoE) training opportunities and disseminate to state, region, and local TB staff | 1. Sign-up for CoE newsletter and training announcements
2. Monitor CoE website for calendar of education and training opportunities **(new)**
 | Monthly | 1. Both the TB program manager and TB education and training focal point receive the Southeastern National TB Center (regional CoE for Tennessee) newsletter and training announcements
2. In 2020, seven (7) CoE trainings were attended by 21 state and regional TB staff. Between January 1 – June 30, 2021, six (6) CoE trainings were attended by 15 state and regional TB staff
 |  |
| Establish partnerships with organizations that serve high-risk populations | Ensure implementation of Community Partnerships to End TB (CPETB) initiative | December 31, 2022 **(new)** | June 10, 2021: survey sent to all regional TB program managers to assess feasibility of resuming CPETB initiativeJune 17, 2021: statewide TB call held to discuss results of survey and reintroduce initiative; most TB programs indicated initiative implementation was feasible beginning in 2022 | Barriers identified from the 6/10/21 survey of regional case managers include:1. regional TB program staffing and ability to effectively implement initiative
2. COVID-19 uncertainty
3. scheduling
4. cooperation from community partners
 |
| Hold bi-monthly statewide conference calls with 100% regional attendance | 1. Provide conference call calendar
2. Create and send calendar invites
3. Develop agenda and materials for each call
 | Bi-monthly | The conference call held in June 2021 was the first statewide call since the beginning of COVID-19 that all had 100% regional attendance | Statewide conference calls were temporarily suspended for the majority of 2020 due to COVID-19; the conference call scheduled resumed in 2021 |
| Plan and present a clinical symposium | 1. Convene a symposium planning committee to develop agenda/content
2. Identify date(s) and location for the symposium
3. Identify presenters
 | Bi-annually |  | HRD funds were allocated in 2020 and again in 2021 to conduct a clinical symposium but due to COVID-19, the symposium was postponed  |
| Provide quarterly new case manager training |  |  | 2020: no new case manager trainings were held due to the lack of need/demandJan – June 2021: one (1) case manager training was held for one (1) new regional case manager |  |

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**PUBLIC HEALTH LABORATORY STRENGTHENING**