

Large-Scale Targeted Testing Utilizing T-SPOT.TB in a Homeless Population

Challenges, Successes and Lessons Learned

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Abstract

BACKGROUND: Identification and treatment of latent TB infection in high-risk populations is the focus of this Texas Department of State Health Services project funded by the Texas 1115 Medicaid Waiver Demonstration. There is emerging consensus that to eliminate TB the focus must shift to the identification and treatment of individuals with LTBI. Newer guidelines have emphasized the use of IGRAs to accomplish this goal. Using the T-SPOT.TB, an IGRA, this project seeks to identify and treat LTBI in a large homeless population in Bexar County/San Antonio, Texas. Our Breathe Easy South Texas (B.E.S.T.) Project has been recognized by CDC in 2016 and 2017 as a U.S. TB Elimination Champion.

METHODS: The San Antonio Metropolitan Health District currently uses the IGRA T-SPOT.TB to test homeless persons in San Antonio's largest homeless campus – Haven for Hope. This 22-acre campus has a daily capacity of 1,500 individuals. The project collects and tracks a variety of participant data including the type of regimen selected for treatment with a preference for the 3HP regimen.

RESULTS: Through December 2017, 5,729 homeless individuals were tested using the IGRA T-SPOT.TB.

411 (7.2%) had a positive IGRA result.
 220 (53.5%) of those with positive results have been lost.
 157 (38.2%) received chest X-ray.
 Of these 53 (33.8%) started treatment.
 Of these 38 (71.7%) completed treatment.
 5 clients with active TB disease identified and treated.
 7 are in the treatment process.
 7 started but stopped treatment.



Results of T-SPOT.TB IGRA testing for the population, regimens used, treatment acceptance and treatment completion rates were collected. Challenges experienced by the project and strategies used to address them and the lessons learned as the project evolved will be described.

CONCLUSIONS: There are significant challenges associated with implementing screening for LTBI when working with homeless individuals. Significant numbers of person with positive tests for TB infections are lost to follow-up. Several strategies were developed in the implementation of the project to address these and other challenges.

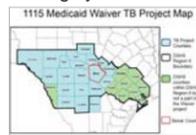
Background



San Antonio Metro Health received Medicaid Waiver 1115 funding in 2014 with additional funding in 2018 for a TB Project focusing on targeted testing and treatment for TB infection (LTBI). Breathe Easy South Texas (B.E.S.T.) is an innovative approach to helping regional providers enhance their understanding regarding the latest advancements in the screening and treatment of TB infection. Using Interferon Gamma Release Assays (IGRA), this project seeks to identify and treat LTBI in a large homeless population in Bexar County/San Antonio, Texas. Bexar County had 74 active TB cases in 2017, 66 active TB cases in 2016, 83 active TB cases in 2015, and 89 active TB cases in 2014. This represents a 16.9% decrease in active TB cases since the TB Waiver Project started in 2014. B.E.S.T. is unique because it focuses much-needed attention on TB infection as a component of the Texas TB elimination strategy.

Methods

Subjects were recruited at a large (22 acre), metropolitan facility serving populations experiencing homelessness. Testing and staff were established near other medical services onsite at the facility and was completely voluntary. Small incentives were offered for having blood drawn, returning for results, and completing treatment. Single green-top (heparinized) blood tubes were submitted to the San Antonio Metro Health Laboratory for same day processing by T-SPOT.TB®.



Positive T-SPOT Results

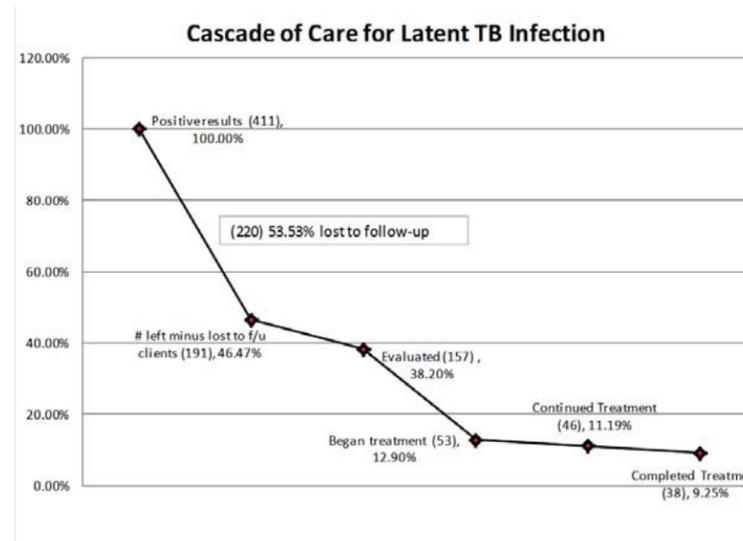
- Referred to City Chest Clinic for follow-up
- CXR performed
- Clinical Assessment performed



Incentives

- \$10 gift card for initial screening
- \$10 gift card for receiving results
- \$25 gift card at completion of treatment

Results



5,729 individuals experiencing homelessness were tested for TB infection. Of these, 411 tested positive. The graph above highlights the cascade of care for latent TB infection.

- 220 (53%) were lost to follow up prior to evaluation.
- 157 (38%) presented to the clinic for evaluation and a CXR, completing initial evaluation.
- 53 (13%) of those completing initial evaluation agreed to start treatment.
- 38 (9%) have either completed or are on course to complete treatment.

Treatment for Latent Infection

- All positive T-SPOT.TB® results were reviewed by clinic physician
- 3HP (Isoniazid / Rifapentine weekly for 12 weeks) was utilized preferentially
- Other treatment regimens prescribed as warranted
- Monthly clinician visits at City Chest Clinic
- Clinical / laboratory abnormalities reviewed immediately by clinic physician

Lessons Learned

- Targeted testing reduced the active TB case load in our community
- Switching from TST to IGRA T-SPOT.TB testing required significant effort regarding new skills, supplies and costs
- Tangible incentives are important and effective in homeless populations
- Utilizing 3HP resulted in excellent completion rates, even in a less stable population

Successes

- Fewer active TB cases in 2016 and 2017
- Transformation from TST to IGRA
- Educated staff
- Stronger community partnerships
- >86% likely treatment completion rate

Challenges

- Mobile population
- Completion of screening to treatment
- Tangible Incentives
- Limited screening to 2X week
- Difficulties contacting mobile clients

Conclusions

There are significant challenges associated with implementing screening for LTBI when working with homeless individuals. Significant numbers of person with positive tests for TB infections were lost. Several strategies were developed in the implementation of the project to address these and other challenges.

Targeted testing of high-risk populations provides excellent return on investment in our efforts to detect infections but more needs to be done to initiate preventive treatment. This has ultimately decreased the number of active TB cases and associated cost burdens impacting our community.

BEST's focus on high-risk populations has uncovered significant numbers of TB infections in need of treatment that otherwise may not have been detected. The BEST Project will continue to expand activities in an effort to continue reducing TB in local communities and regionally.

Special Recognition

Our Medicaid 1115 Waiver TB Project was recognized March 24, 2018 on World TB Day and in 2017 by the Centers for Disease Control and Prevention as a CDC U.S. TB Elimination Champion in the category for expanding testing and treatment. We were also the sole recipient in that category in the United States for this special recognition in 2016—the only 3-year consecutive TB Elimination Champion!

Funding

This study is currently supported by the Texas Department of State Health Services Contract No. HHS000068600001 which became effective January 1, 2018, and terminates on September 30, 2019. Prior to 2018, the study was supported by Texas DSHS Contract # 2014 045668-001A which became effective July 1, 2014 and ended December 31, 2017.

References

National Action Plan for Combating Multidrug-Resistant Tuberculosis, The WhiteHouse, December 2015: https://www.whitehouse.gov/sites/default/files/microsites/ostp/national_action_plan_for_tuberculosis_20151204_final.pdf

