

## Introduction

The population of South Texas has a high incidence of latent tuberculosis infection (LTBI) (4.5 per 100,000) compared with national incidence (2.9 per 100,000).<sup>1</sup> With funding from Texas Medicaid 1115 Waiver, the Breathe Easy South Texas (BEST) program was created to increase detection, treatment, and treatment adherence rates for LTBI, and to encourage use of improved diagnostics and treatment. BEST is led by the Texas Department of State Health Services, in partnership with University Health System, San Antonio Metropolitan Health District, UT Health San Antonio, and other primary care venues in Bexar and surrounding counties. We conducted a project evaluation of the first 2.5 years of BEST to identify barriers and facilitators to successful LTBI screening and treatment.

Figure 1: Counties in South Texas<sup>2</sup> with participating sites in the BEST program are marked with a green star.

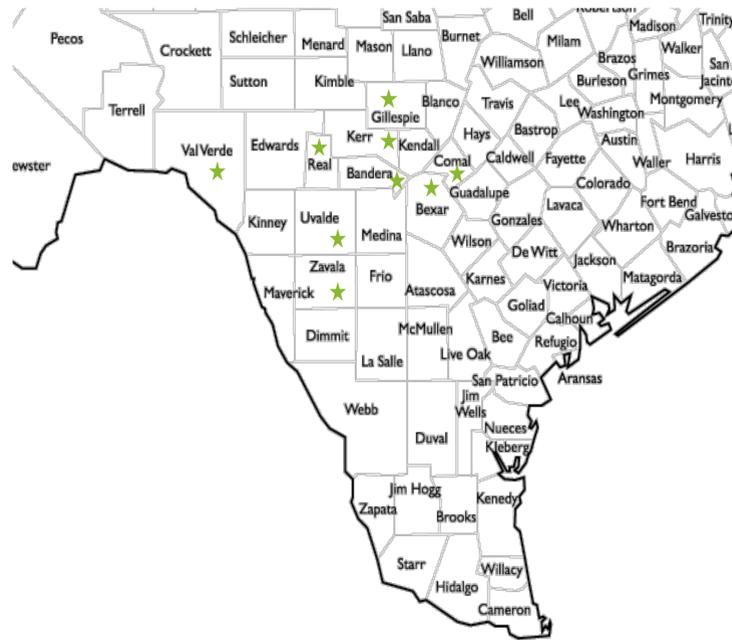
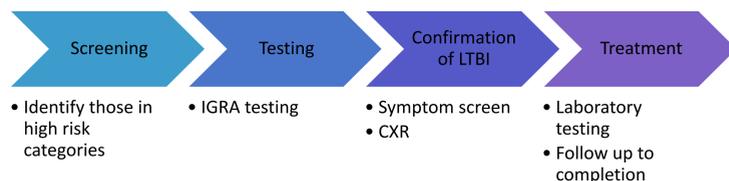


Figure 2: BEST Program process



## Methods

### Quantitative Analysis (10/2014-3/2017):

- Inclusion criteria "high risk per CDC": homelessness, diabetes, substance use, HIV, born in high prevalence country, dialysis, other predisposing conditions
- # IGRA tests, test results, LTBI confirmation, treatment outcomes

### Interviewing and Transcribing:

- 16 Semi-structured patient interviews administered to participants recorded digitally, purposive sampling by screening and treatment outcome
- 10 Site-based Focus groups of participating staff and providers conducted and recorded
- Interviews and focus groups transcribed

### Developing Codebook and Coding:

- A preliminary codebook was created by the BEST team
- Transcripts coded by two researchers using the qualitative analysis software, NVivo.
- Interviews coded by both researchers until intercoder agreement, i.e., coding consistency >75%<sup>3</sup>
- Codes were updated iteratively as researchers encountered the less intuitive themes in the coding process

### Thematic Analysis of Codes:

- Grounded theory identified themes associated with positive outcomes.<sup>4</sup>
- Codes were compared between patients who accepted and completed treatment and those who did not to identify barriers and facilitators.
- Codes were compared between sites categorized as optimally performing vs sub-optimally performing based on number of IGRA tests and by the percentage advancing through each process stage (confirmation of diagnosis, treatment, completion), a positive deviance approach.<sup>5</sup>

Figure 3: 2018 CDC TB Elimination Champions – BEST Project



## Results

Of 9050 non-duplicated IGRA tests completed in high risk patients, 687 (8%) were positive. Of these 340 (49%) had confirmed LTBI, and 191 initiated LTBI treatment.

Figure 4: Quantitative results

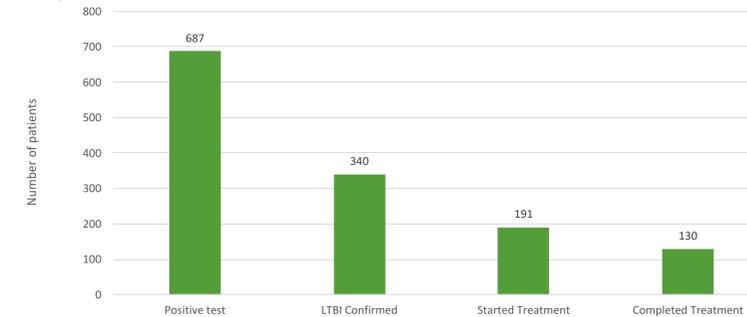
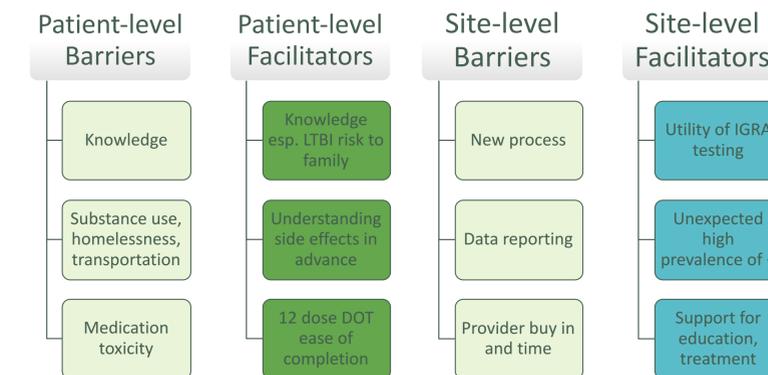


Figure 5: Perspectives expressed by patients and clinic staff.

<b>Patient-level barriers</b>	"After taking the medications I was really sick and dizzy, disoriented, and nauseous, and headaches."
<b>Patient-level facilitators</b>	"I don't want to infect my wife, number one, or anybody else, for that matter. And it's not something we should take lightly."
<b>Site-level barriers</b>	"Just to make sure that all the numbers matched, and that was...that's why we call it 'the monster'."
<b>Site-level facilitators</b>	"I never expected to have some positives, and we did. You know, I'd have never...because you don't ever really think about it, that it is an issue."

Figure 6: Themes observed from patient and staff perspectives



## Conclusion

BEST successfully screened over 9000 patients with a high prevalence of IGRA positivity (8%). Confirming LTBI, initiating, and completing treatment were more challenging.

Our qualitative evaluation of facilitators and barriers to screening, initiation of treatment, and treatment completion suggests that:

- additional low literacy patient education on LTBI and treatment, including toxicities,
- expanded support for the clinics in terms of process implementation, data reporting and provider training, would be helpful additions to the program.

### Implementation of this Study:

Recommendations for modification of the BEST program to improve programmatic outcomes include:

- Achieve and maintain buy in for program implementation from staff, providers, and administrators.
- Provide simple, low literacy patient education throughout the screening and treatment process.
- Offer continuous support and education for staff and providers.
- Make data reporting easy and fool proof.

We are currently performing clinic site education sessions with our community partners to disseminate our results and to gather feedback on our findings and on ways BEST can work together with the clinic staff and providers to mitigate the barriers to screening and treatment.

## References

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