ABSTRACT

Tulane's student-run tuberculosis (TB) clinics provide on-site Tuberculin Skin Tests (TSTs) to homeless shelter residents who require TB screening every six months. Cooperation between Tulane's TB Program, the homeless shelters, and a local TB clinic (Wetmore TB Clinic) has streamlined the TB screening process and linked residents with potential latent TB to appropriate follow up treatment. However, both testing redundancy and the high cost of tuberculin restrict the growth of Tulane's TB Program. Standard protocol requires all shelter residents to receive TSTs as part of the TB screening process. Unfortunately, because of the transient nature of the population served, many of the TSTs placed are never read resulting in lost funding due to ineffective testing. To address this, a robust screening questionnaire will be used in one of the shelters in order to identify potential cases of active (transmissible) TB while also assessing the risk for latent (non-transmissible) TB. Residents will be subdivided into groups based on risk for latent TB and length of stay in the shelter (long vs. short-term). This will enable volunteers in the student-run clinic to determine whether or not to administer a TST. Long-term residents are both more likely to return for TST readings as well as attend treatment visits at Wetmore TB Clinic. For this reason, all long-term residents will continue to receive TSTs. Short-term residents will instead be screened using the questionnaire and will receive a TST only if determined to be at a significant risk for latent TB. Short-term, low risk residents will not receive a TST. Instead, they will be given a shortened clearance period by the student-run clinic. Utilization of the questionnaire will allow student volunteers to accurately screen for active TB, therefore preventing the spread of TB. Decreasing the clearance period for short-term residents will ensure residents are continually re-checked for active TB symptoms. Deferring TSTs for low risk, short-term residents will greatly decrease the number of ineffective TSTs therefore freeing up funding and allowing Tulane's TB Program to grow.

TULANE’S TB PROGRAM

- Tulane’s student-run TB Program consists of 6 TB clinics that operate out of homeless shelters and rehabilitation clinics. Each clinic’s patient population is unique and as such, has different needs with regards to TB testing. With that in mind, the new screening protocol detailed here will likely be adjusted to fit each clinic’s needs. The new screening protocol will be implemented in one clinic initially before expanding to other TB clinics.
- Residents in these shelters/rehabilitation clinics reside in close quarters and are therefore more susceptible to spreading communicable diseases like tuberculosis. Because of this increased risk, shelters in New Orleans require residents to undergo precautionary TB testing.
- In 2017, Tulane's TB Program administered an average of 133 skin tests per month across 5 clinics. The recent opening of a 6th TB clinic will considerably increase this average.

TB PROGRAM GOALS

- Reduce the amount of tuberculin wasted on ineffective tuberculin skin testing. As shown by Figure 1, the vast majority of the TB Program’s budget is used to purchase tuberculin. However, an average of 43.5% of skin tests administered are never read, rendering these tests useless. This results in a significant waste of program funding. Utilizing the new screening questionnaire enables medical students to quickly identify which residents may benefit from skin testing. Equally as important, the new protocol requires residents not receiving TSTs to be frequently screened for symptoms of active TB. This will prevent the spread of TB amongst shelter residents while conserving tuberculin.
- Utilize funding saved through implementation of the new protocol to expand the TB Program. Despite efforts to link shelter residents to affordable/free medical care, large barriers persist. For example, lack of transportation between the shelters and Wetmore TB Clinic often prevents residents with latent TB from receiving appropriate treatment. Additional available funding will enable the TB Program to address some of these barriers to medical treatment.
- Implement the new screening protocol at all Tulane student-run TB clinics.

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Figure 1: Division of TB Program Costs

- Tuberculin (83.3%)
- Influenza Vaccine (11.5%)
- Syringes (3%)
- Sharps Containers (1%)
- Alcohol Swabs, Screening Results Cards, Bandages, Cotton Balls, Saline (<2%)

Figure 2: Average TST Results

- Positive TST (3%)
- Negative TST (53.5%)
- No-show (43.5%)

Sample Run: Homeless Shelter Resident

- Symptom of active TB
- Emergency Department
- TST
- Positive
- Wetmore TB Clinic to rule out latent TB
- Cleared for 6 months
- Homeless Shelter Resident

- Symptom of active TB
- Emergency Department
- TST
- Negative
- Wetmore TB Clinic to rule out latent TB
- Cleared for 6 months
- Homeless Shelter Resident

- Symptom of active TB
- Emergency Department
- TST
- Positive
- Wetmore TB Clinic to rule out latent TB
- Cleared for 1 month (without TST placement)