Evaluating Follow-Up Rates and Barriers to Follow-up in High Risk Populations at a Student-Run Tuberculosis Testing Clinic

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Introduction

- Homeless shelters and rehabilitation facilities in New Orleans require all patrons to have a documented tuberculosis (TB) test in order to maintain residence.
- The Tulane School of Medicine Student-Run TB Program encompasses six clinics and a partnership with Wetmore TB Clinic (state-funded facility).
- The program provides TB testing via a tuberculin skin test (TST), vaccination initiatives, and referrals to Wetmore Clinic. This grant-funded program, staffed and overseen entirely by medical students, aims to fulfill the following goals:
  1. Provide evidence-based screening and testing for tuberculosis in a high-risk population.
  2. Provide connections to higher care when indicated;
  3. Allow individuals to maintain residency in the facilities served.

Methods

Medical records for all patients seen from January 2017 through December 2018 were abstracted into Research Electronic Data Capture (REDCap), a secure web-based data management system.

Primary outcome measures included patient follow-up rate for TST reading and risk factors associated with loss to follow-up. Secondary measures included follow-up rates at Wetmore Clinic for patients with an indication for referral.

Results

Preliminary results indicate that over the 24 month period analyzed, 3,730 patients were seen. Of those, 258 (6.92%) had a medical history necessitating a referral to Wetmore. These patients included anyone who had a new positive TST, a past positive TST, received the Bacille Calmette-Guerin (BCG) vaccine or received treatment for TB. In order to prioritize use of tuberculin, 168 (4.50%) patients received 30 day temporary clearance instead of having a TST placed due to their low-risk status as determined by a series of risk factors, including symptoms of active TB or the following:

- Prolonged immunosuppressive use
- Exposure to HIV or AIDS
- Close contact with someone suspected to have active TB
- Over 10% below ideal body weight
- IV drug use (within 5 years)
- 2+ week stay in TB-endemic country
- Silicosis or coal/dust-based lung disease
- Stomach or Intestinal surgery
- Diabetes Mellitus
- Chronic Kidney Failure
- Cancer of head, neck or lung
- Blood disorders (i.e. leukemia)
- Previous Incarceration (within 5 years)

Of 3,413 TSTs placed, 2,330 (68.27%) attended their follow-up appointment for results. There was a significant difference between follow up rates among clinics. Four clinics (First Presbyterian, New Orleans Mission, Ozanam Inn, and Salvation Army) are homeless shelters and two clinics (Bethel Colony and Bridge House) are rehabilitation facilities. Individuals seen in rehabilitation facilities were 37% less likely to miss their TST reading appointment than those seen in homeless shelters (RR = 0.63, p<0.0001, 95% CI = 0.54, 0.74).

TST cost for the program averages $6.44 per test placed. As such, the program could save an estimated $6,974.52 by improving follow-up rates. Costs saved by reducing no-show rates could be reinvested, expanding the program to include a greater percentage of the at-risk community in New Orleans.

Future Directions

- Evaluate interventions to improve follow-up (reminder cards, coordination with clinic sites, fliers, etc.).
- Increase patient engagement via education initiatives.
- Increase inter-clinic communication, as some of the population moves between shelters and clinics.
- Further data analysis to determine follow-up rates for patients referred for Wetmore.

Discussion

- Lack of a definitive TST result is prohibitive to staying in the facilities served.
- A no-show rate of 31.73% is alarming, as it implies that these patients may lose their temporary housing, in addition to having an unknown TB status.
- The varied follow-up rates at the clinics demonstrates a need for targeted quality improvement.
- Three clinics are homeless shelters and are subject to a highly transient population.
- Patient education initiatives can be added to target those at highest risk for loss to follow-up.

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