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Background

- Tuberculosis remains one of the most devastating global public health issues, causing 10 million cases of disease and 1.57 million deaths in 2017. Although TB rates in the United States have declined, 8,920 incident cases of tuberculosis disease were still reported nationally in 2019. In order to progress towards TB elimination globally and nationally, comprehensive public health efforts directed towards tuberculosis must be scaled up.
- Identifying and treating those with latent tuberculosis infection (LTBI) represents a critical and challenging aspect of national tuberculosis control. 5–10% of infected persons will develop active TB disease over their lifetime, if left untreated, with a much higher risk occurring among immunocompromised persons. It is estimated that 20-25% of the world's population and 4-5% of the US population have LTBI, and more than 80% of TB disease cases in the United States result from reactivation of LTBI.
- Given the public health significance of untreated LTBI and the importance of increasing provider awareness and ability to clinically manage infected persons, there is an increasing need for both clinical and program-based assistance in most US medical and public health settings. For over a decade, the Centers for Disease Control and Prevention have funded regional tuberculosis Centers of Excellence (COEs) that provide training, education and medical consultation.
- Beginning in 2006, these regional TB centers began to record consultations provided by tuberculosis experts in a medical consultation database (MCD). This tuberculosis MCD provides an opportunity to assess clinical challenges or knowledge gaps related to LTBI that may exist among health care providers both nationally.

Purpose

- This study aims to compile data from clinical and programmatic consultations related to LTBI and the expert recommendations provided to inform development of education and training resources that can enhance prevention and accelerate progress towards elimination.
- The objectives of this study were, by using the MCD,
 - To identify reasons for healthcare professional (HCP) consultations to the TB COEs regarding LTBI care
 - To describe epidemiologic and clinical patient characteristics related to these consultations.

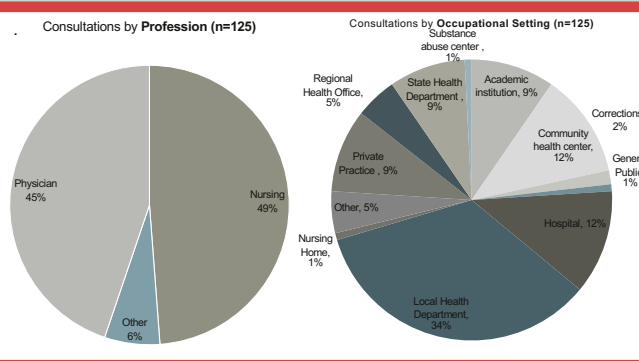
Methods

- Sample Selection:** All 558 consultations entered in the MCD between January 1-December 31, 2018 under the categories "LTBI" and "TST/IGRA" were eligible for inclusion. Using randomized stratified sampling based on occupation of the HCP requesting the consultation, a sample of 125 inquiries was selected and qualitatively analyzed.
- Qualitative Analysis:** Text from consultation records were reviewed and coded to identify reasons for the inquiries and common epidemiologic and clinical features of the patients from the consultations. Reliability was sought through use of a secondary investigator and assessing concordance between the analyses of the two investigators.
- Quantitative Analysis:** Descriptive characteristics of the consultations were assessed. Validity of the sampling method was sought by comparing inquirer characteristics of the entire 558 consultations with the sample of 125 inquiries analyzed. Statistical associations between inquirer characteristics and reason for consultations were assessed.

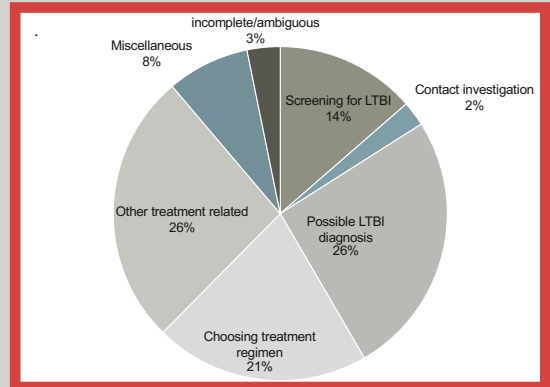
Results

- 56 inquiries (45%) were made by physicians and 61 (49%) by nurses, from 11 different healthcare settings, and from 30 territories and states (48% from Texas and California).
- The most common reasons for inquiries included when and how to screen for LTBI (16%), determining next steps for evaluating and managing a patient with possible LTBI (47%), and management of LTBI treatment-related complications (26%).
- Patients for whom consultations were requested were most commonly foreign born (31%), had a chronic illness (31%), were children (25%), and had a history of travel to TB endemic areas (18%).
- Internal Validity and reliability of our methodology were confirmed.
- No associations between inquirer characteristics and reasons for consultations were noted.

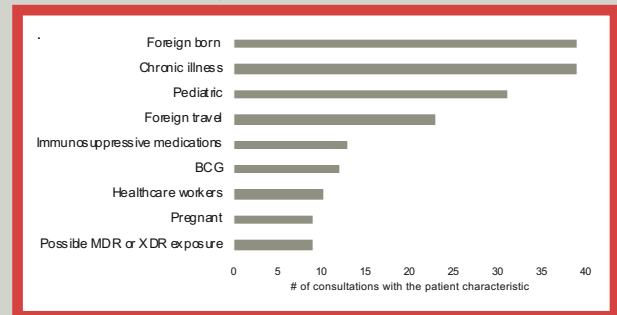
Inquirer Characteristics



Reasons for the Consultations



Epidemiologic and clinical characteristics



Discussion

- This qualitative study demonstrated that challenges, experienced by public health and HCPs in LTBI care, exist throughout the entire "LTBI cascade of care".
- We also identified clinical and epidemiologic patient characteristics, commonly identified throughout the consultations, that may make LTBI care more challenging and represent epidemiologically important populations at significant risk of LTBI.
- Our study emphasizes the complexity of caring for patients with possible LTBI, highlighting the need for ongoing medical consultation support for nuanced clinical scenarios.
- Our findings can inform patient and provider educational materials and influence policy to improve HCPs' knowledge of LTBI care nationally. Such a comprehensive approach including education, policy initiatives, and consultation support is needed to achieve national TB elimination.