The Tuberculosis Elimination Alliance (TEA) 2024 LTBI/TB Screening, Testing, and Treatment Needs Assessment for A/AA and NH/PI-Serving Community Health Centers

August 2024

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Executive Summary

Introduction

With 9,600 reported tuberculosis (TB) cases and an estimated 13 million individuals living with asymptomatic latent TB infection (LTBI) as reported in 2023, LTBI/TB disease continues to impact those living in the United States (U.S.) and its territories.[1,2] Of these statistics, Asian/Asian American (A/AA) and Native Hawaiian/Pacific Islander (NH/PI) populations are disproportionately impacted by TB at a greater rate compared to other racial and ethnic groups. Among both U.S.-born and non-U.S.–born, A/AAs accounted for nearly 45% and NH/PIs accounted for nearly 4% of all U.S. TB cases in 2023.[1] Moreover, approximately 85% of TB cases in the U.S. are attributed to reactivation of LTBI rather than recent transmission.[1] Without treatment, they represent the future cases of TB.

In 2022, reported TB cases and incidence rates in the United States increased for the second year in a row but remained lower than levels reported prior to the COVID-19 pandemic. Compared to pre-pandemic 2019 levels, TB incidence remained steady or below pre-pandemic levels for most U.S.-born race and ethnicity groups but increased among American Indian or Alaska Native persons, Native Hawaiian or Other Pacific Islander persons, and Asian persons, increasing the TB disparities experienced by those populations.[3]

Even though the prevalence of some social risk factors, such as residing in a congregate setting and substance use, has declined among persons with TB over the last decade, these factors continue to affect a substantial number of persons with TB in the United States.[2] The number of deaths attributed to TB disease or TB treatment in 2020 was the highest since 2011, especially among persons who died after diagnosis. This is consistent with a higher TB-related death rate reported in 2020 vital statistics data. However, decreases in treatment completion and directly observed therapy for cases diagnosed in 2020 were minimal, suggesting that, despite the staffing and resource challenges that health departments faced in 2020, TB programs were able to ensure treatment completion rates similar to the levels observed in the years before the COVID-19 pandemic.[2]

These findings highlight the persistent and evolving challenges in controlling TB and LTBI within the U.S., particularly among A/AA and NH/PI communities. The rise in TB incidence among certain racial and ethnic groups underscores the need for targeted interventions and sustained public health efforts to address these disparities. While progress has been

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[1] Williams, P. M., Pratt, R. H., Walker, W. L., Price, S. F., Stewart, R. J., & Feng, P. J. I. (2024). Tuberculosis - United States, 2023. *MMWR. Morbidity and Mortality Weekly Report*, *73*(12);265–270. https://www.cdc.gov/mmwr/volumes/73/wr/mm7312a4.htm

[2] Data & Statistics | TB | CDC. Retrieved from https://www.cdc.gov/tb/statistics/default.htm

[3] CDC. (2023). *Reported Tuberculosis in the United States, 2022*. Retrieved from https://www.cdc.gov/tb/statistics/reports/2022/Exec_Commentary.html

made in reducing the prevalence of certain social risk factors, the data emphasize the critical importance of continuing and enhancing TB prevention, diagnosis, and treatment efforts, especially in communities most affected. The increased mortality rates and ongoing transmission risks remind us that TB requires continuous vigilance, resources, and innovative strategies to ensure that all communities are protected from this preventable disease. Given the disproportionate impact of LTBI and TB on A/AA and NH/PI communities, community health centers (CHCs) serve as critical safety net providers and community partners at the forefront of LTBI/TB intervention, playing a vital role in addressing these public health challenges.

Background

The aims of this project were to:

1. Evaluate the current needs, protocols, and promising practices for LTBI/TB screening, testing, and treatment among the CHCs that participated in the 2022 LTBI/TB needs assessment.
2. Create an initial guideline for carrying out a comprehensive needs assessment in the future, aimed at addressing the social and cultural barriers to LTBI/TB testing, treatment, and education within high-risk populations.

Building on the 2017[4] and 2022[5] AAPCHO-led LTBI/TB needs assessments, the 2024 assessment aimed to evaluate whether the needs, challenges, and promising practices related to TB screening, testing, and treatment among A/AA and NH/PI-serving CHCs have evolved since 2022. The assessment also considered additional populations, including Marshallese, Hispanic/Latinx, Black and African American, African/North African, Arabic, and Pakistani, and refugee communities. Due to time constraints, a comprehensive needs assessment as conducted in previous years was not feasible. Nonetheless, this preliminary assessment is intended to provide guidance for a more detailed future evaluation, which will aim to include a broader range of populations. The assessment involved four surveys with qualifying CHCs in the U.S. and its territories, and three follow-up interviews with interested CHC respondents.

Methodology

A survey (Appendix F) was created to address the recommendations of the 2022 LTBI/TB needs assessment and the 16 applicable CHCs that had previously responded were reached out to again to complete the 2024 LTBI/TB follow-up needs assessment survey.

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[4] AAPCHO. *Assessing Tuberculosis Needs among Health Centers serving Asian Americans, Native Hawaiians, and other Pacific Islanders,* 2017. Available at https://bit.ly/AAPCHO-2017-TB-Report

[5] AAPCHO. *Addressing Tuberculosis and Latent Tuberculosis Infection Screening, Testing, and Treatment Needs Among Community Health Centers Serving Asian Americans, Native Hawaiians, and Pacific Islanders,* 2022. Available at https://bit.ly/AAPCHO-2022-TB-Report

Given the impact of the COVID-19 pandemic between 2022 and 2024, we hypothesized that significant changes might have occurred and sought to explore these through a survey. Distributed via the online platform, SurveyMonkey, the survey covered health center demographics, LTBI/TB screening, testing, and treatment policies and practices, medical records, and provider and patient education. Considering the time constraints of AAPCHO's Summer Internship Program and the end of the TEA's funding cycle, respondents were given two weeks to complete the survey, with an additional week reserved for scheduling follow-up interviews to review their health center's responses.

Key Findings

Analysis of the survey responses and interview feedback identified seven key challenges and barriers, as well as six promising practices generated by the community. These challenges, barriers, and promising practices have remained consistent with those seen in the 2022 needs assessment. Key differences include an increase in refugee TB/LTBI patients and LTBI case-load burden compared to TB.

Challenges included: 1) financial and funding issues; 2) inadequate staffing for outreach and treatment; 3) limited knowledge and education on LTBI/TB among staff and patients; 4) stigma, 5) social determinants; 6) lack of structured LTBI/TB programs or guidelines, and 7) low patient engagement and tracking in LTBI/TB screening, testing, and treatment.

The interview information revealed additional insight. Interviewed participants believed that disparities in LTBI/TB knowledge existed from patients and staff, TB stigma social determinants, patient willingness, and the ability to be screened, tested, and treated for LTBI/TB were contributing barriers to meeting the CHC's goals.

LTBI/TB treatment still demonstrated to be the largest challenge, noting unique barriers to screening and testing, such as social determinants of health (i.e., access to transportation), lack of CHC resources, shortage of TB medications for distribution, reliance on external partnerships for TB/LTBI treatment, and limited compliance/completion of treatment by patients.

CHC respondents highlighted that reliance on external partnerships presents both challenges and opportunities for CHCs in conducting LTBI/TB testing and treatment. One CHC reported communication issues between the clinic and the city's Public Health Department due to ongoing staffing and structural changes at both facilities. This disconnect has complicated treatment and created difficulties in clarifying the county's follow-up protocols.

Additionally, two CHCs noted the challenge of ensuring patient adherence to treatment, particularly with off-site referrals. Patients often face obstacles such as distance and unfamiliarity when referred to external hospitals or local Public Health Departments.

However, the implementation of an EHR system has improved the tracking and management of TB and LTBI patients referred out. For example, transitioning to the Epic EHR system in 2024, from previously used eClinicalWorks EHR in 2022, has enhanced TB care by providing better access to patient information and follow-up, as it integrates with the system used by the local Public Health Department.

Respondents described their patients' social determinants as major challenges to all areas of LTBI/TB interventions, particularly treatment. A commonly mentioned social determinant was transportation. One CHC noted inadequate access to transportation options on the Marshallese Islands to facilitate Active Case Finding (ACF) in the community. Another CHC stated that referral to their local Public Health Department's facility for TB treatment is outside of their patient population's community and area of familiarity, often making treatment compliance more difficult for patients who do not have reliable transportation.

Both survey and interview responses identified financial/funding constraints as barriers to LTBI/TB screening, testing, and treatment. Three respondents recognized these constraints in the survey responses (Appendix G, Table 3). One CHC noted that sustainable support and funding from grants or the government would greatly impact outreach methods, especially in increasing their ability to conduct ACF in the outer islands. When asked about plans to expand treatment services offered at the CHC, one respondent noted that red taping and restrictions by the local government prevents the clinic from expanding services (i.e. offering TB treatment) as these services are provided directly through the city/county.

Respondents also noted TB stigma still posing a challenge. TB stigma prevents open conversation and is not typically community-receptive as mentioned by one respondent. They described that some parents are resistant to their children undergoing treatment despite educational efforts. They also noted that their continued effort on the educational front has made a positive impact since 2022, but there is still much work to be done to combat community stigma.

Recommendations

Respondents' suggested promising practices, which include 1) establishing a comprehensive set of LTBI/TB program structure recommendations and/or guidelines; 2) understanding and utilizing electronic medical records (EMR)/EHR systems; 3) increasing CHCs' ability to screen, test, interpret tests, and provide treatment (pharmacy access) onsite; 4) developing strong, cooperative relationships with external partners (i.e., local health dept, TB programs, etc.); 5) increasing LTBI/TB education among all staff and the community-served, and 6) hiring staff from the community that can speak the languages and relate to patients in culturally-responsive approaches.

In light of these community-centered responses and discussions, we provide the following updated recommendations for CHCs to support LTBI/TB screening, testing, and treatment:

1. To address the barrier of not having a targeted screening program for LTBI and TB, it is recommended that CHCs develop and implement a systematic and focused screening initiative.
2. To enhance TB management in CHCs who are reliant on external partnerships (i.e., local health departments, local hospitals, etc.), it is recommended to establish better communication and coordination with these partners to ensure seamless care continuity and to improve the process of obtaining patient records following treatment.
3. To reduce LTBI/TB stigma, it is recommended that CHCs continue and strengthen community education efforts and provide staff comprehensive training surrounding LTBI/TB screening, testing, and treatment.
4. To address gaps in quality TB/LTBI patient care, it is recommended that CHCs continue to maintain and develop a dedicated LTBI Team as well as continue efforts to treat patients within the clinic rather than referring them out.
5. Assess patients' social and cultural barriers in accessing screening, testing, and treatment through appropriate culturally-responsive interventions and CHC-enabling services.
6. Continue efforts to achieve 100% treatment completion rates for LTBI and TB, through implementing strategies to ensure patients attend evaluations and adhere to treatment plans.

Conclusion

This project aimed to reassess and update our understanding of the needs, protocols, and best practices related to LTBI/TB screening, testing, and treatment within A/AA and NH/PI-serving CHCs since the 2022 LTBI/TB needs assessment. The project successfully identified key areas where current protocols can be improved and highlighted effective practices that have emerged. Furthermore, recommendations were developed to help CHCs address the social and cultural barriers that impede LTBI/TB testing, treatment, and education among high-risk populations.

Despite these advancements, it is evident that a more thorough assessment is required to comprehensively address the diverse needs of these CHCs. The survey findings confirmed that barriers to LTBI/TB care are not confined to A/AA and NH/PI populations alone; other racial and ethnic groups also encounter significant challenges.

To effectively tackle LTBI and TB disparities, future initiatives must focus on forming strategic partnerships with these additional communities. By understanding and addressing their specific barriers, we can work towards eliminating LTBI and TB inequities. An expanded needs assessment will be crucial in gaining deeper insights into the unique needs and obstacles faced by these populations. This will also help in outlining concrete steps to enhance LTBI/TB care delivery and outcomes in CHCs and the broader community.

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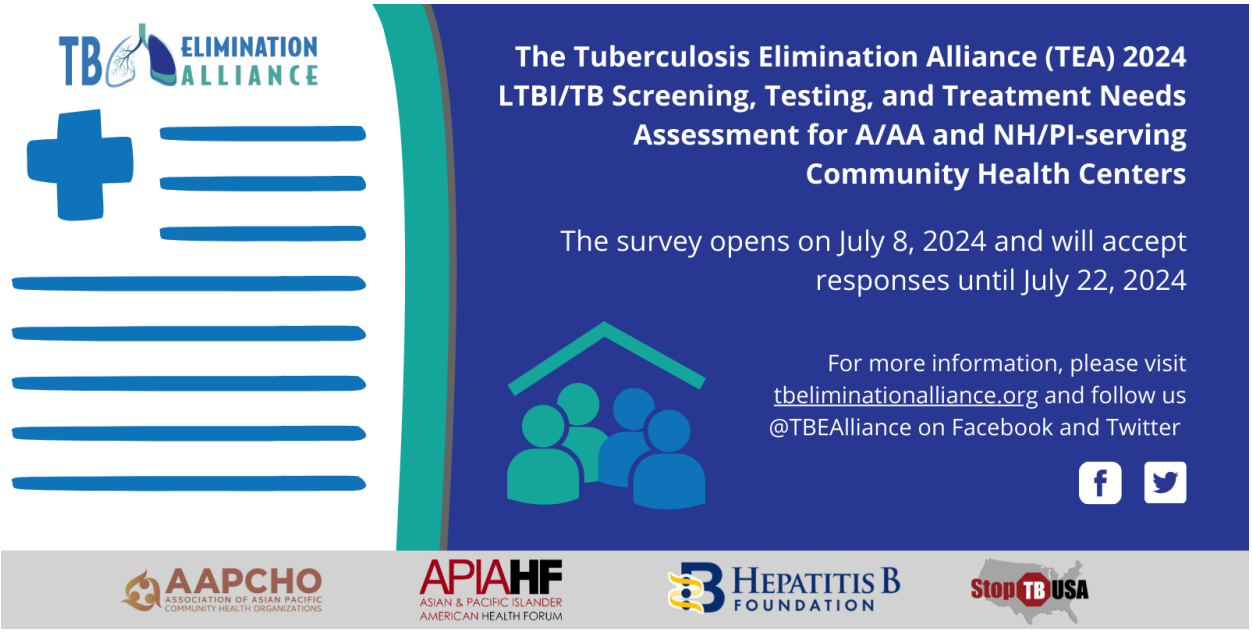
The Association of Asian Pacific Community Health Organizations (AAPCHO) is a national association of community health organizations dedicated to promoting advocacy, collaboration, and leadership that improves the health status and access of Asian Americans, Native Hawaiians, and Pacific Islanders within the United States, its territories, and freely associated states. AAPCHO, along with the Asian & Pacific Islander American Health Forum (APIAHF), Hepatitis B Foundation (HBF), and Stop TB USA lead the TB Elimination Alliance (TEA), a national partnership of community leaders dedicated to eliminating LTBI and TB inequities among A/AA and NH/PI populations through education, awareness-building, and innovation.

Acknowledgements

This project, through AAPCHO and Health Career Connect (HCC), is funded through the collaboration of our partners at APIAHF and in partnership with TEA. We would like to acknowledge the valuable contributions from the project team, including AAPCHO's 2024 Summer Internship Program, Jeffrey Caballero, Dr. Chari Cohen, Mukta Deia, Frank Hood, Jen Lee, Amee Patrawalla, Chibo Shinagawa, Jamila Shipp, Riana Tadeo, and Dr. Ed Zuroweste. Finally, we are grateful for the valuable participation of the CHC staff, non-clinical providers, and all those who were able to incorporate community feedback with an emphasis on CHC protocols rather than individual-clinician perspectives. Your valuable contributions are greatly appreciated in improving awareness of LTBI/TB in our communities.

Appendix A

Subject: 2024 Follow-up Survey to AAPCHO's 2022 TB Needs Assessment - Honorarium Provided



Dear previous survey respondents,

The Association of Asian Pacific Community Health Organizations (AAPCHO) and The Tuberculosis (TB) Elimination Alliance (TEA) invite the community health centers in the U.S. and U.S. Territories (including the Pacific Islands) surveyed in 2022 to participate in a 30-minute follow-up survey.

This survey aims to update the data collected in the 2017 and 2022 AAPCHO-led latent tuberculosis infection (LTBI)/TB needs assessment project by gathering current information on the needs and protocols of community health centers serving A/AA and NH/PI populations for LTBI/TB screening, testing, and treatment.

Survey: Survey Monkey Link, Bitly Link
Survey Opens: July 3, 2024
Survey Closes: July 15, 2024

We would appreciate your willingness to share your knowledge and experiences regarding LTBI and TB disease. Upon completing the survey, eligible respondents (e.g., health centers in the U.S. and U.S. Territories, including the Pacific Islands) will receive a $125 honorarium.

In addition, if you are willing to participate in a follow-up interview, we will provide an additional $125 honorarium to your organization.

For additional resources, please visit TEA's resource page. If you have any questions, contact us at tea@aapcho.org.

Thank you,

Riana Tadeo
Infectious Disease Intern
rtadeo@aapcho.org

Appendix B

Subject: [<Survey Respondent>-Interview] 2024 Follow-up Survey to AAPCHO's 2022 TB Needs Assessment - Honorarium Provided

To: <survey respondents>
From: tea@aapcho.org

Hello XXX,

Thank you for your response to our 2024 TB/LTBI Needs Assessment survey. My name is Riana Tadeo and I am AAPCHO's Summer Intern supporting the TB Elimination Alliance (TEA).

After reviewing your responses, you indicated that you were interested in scheduling a follow-up meeting to discuss your health center's responses further. This meeting would be about a 5 minute check-in via phone call or Zoom based on your preference. Before scheduling our follow-up discussion, we ask that you answer the following questions:

1. Are you comfortable with having your responses recorded via audio recording?
2. Do you prefer to discuss your responses over the phone or via Zoom?
3. What is your general availability for the next 2 weeks and are there any time restrictions you have in the month of July (e.g. planned vacations, etc.)?

Finally, as this project is a community-centered assessment, if you have a resource that could benefit health centers, LTBI/TB-serving clinicians, or individuals living with LTBI or TB, please feel free to let us know at tea@aapcho.org.

For additional resources, please visit the resource tab at tbeliminationalliance.org.

Thank you again, and please do not hesitate to contact me if you have any further questions or concerns regarding your participation or the designated timeline.

I look forward to hearing from you and thank you again for your participation.

Thank you,
Riana Tadeo
Infectious Disease Intern
rtadeo@aapcho.org

Appendix C

To: <survey respondents>
From: tea@aapcho.org

Hello XXX,

Thank you again for speaking with me to discuss your health center's responses to our needs assessment, and for expanding on your LTBI and TB challenges and best practices.

We will be reporting our findings from this needs assessment in our newsletter. Given your best practices and experiences, we would love to highlight your health center's responses to further paint a holistic picture of LTBI and TB challenges and practices across the U.S.

However, with respect for your responses, please answer the questions below:

1. Do you consent to have your survey responses analyzed and published?
2. Would you be willing to consent to the use of direct quotes from the follow-up discussion? Please let us know what you are most comfortable with!
3. Furthermore, we aim to share the drafted report with respondents like yourself and welcome any feedback you may have.

Again, thank you so much XXX, for your health center's continuous support in our LTBI/TB efforts and willingness to share your health center's experiences.

Take care and I look forward to speaking again,

Thank you,
Riana Tadeo
Infectious Disease Intern
rtadeo@aapcho.org

Appendix D

STEP 1: PRELIMINARY INTERVIEW QUESTIONS

Note: This information should be gathered prior to the interview (e.g. over email or during introductory meeting with the CHC) to allow for extra time during the interview.

Date of interview: _____

Mode of interview: _____

Health Center Name: _____

Representative Name/Alias: _____

Position/role at CHC: _____

STEP 2: SET THE STAGE FOR THE INTERVIEW

1. Welcome the participant(s) and thank them for their time.
2. If it is a video interview: ensure comfort and put the participant at ease (e.g. ensure there are no technical issues, microphone and video are working, etc.).
3. Informed consent with participants and agreement to record the interview.
   Do you agree to participate in this conversation and are you comfortable with us recording the audio for our conversation? We will record the discussion and remove the video.
4. Start recording.
5. Introduce yourself and identify your specific role.
   Thank you for agreeing to be interviewed for this needs assessment. We thank you for your willingness to discuss your responses, and we believe your input is vital in identifying high priority gaps in LTBI/TB-related protocols. We would like to record our conversation as we don't want to miss any of your valuable comments. All information discussed will be confidential. The recordings will be transcribed anonymously.
6. Ask the participant to introduce themselves and their community health center.

STEP 3: THE INTERVIEW

The Interview questions can be Found in Appendix E.

STEP 4: ENDING THE INTERVIEW

Thank you very much for all the time you've spent answering these important questions which will help us better understand the gaps and needs for LTBI and TB care for at-risk patients served at community health centers nationally and beyond. Please expect to receive an email from Mukta Deia, within the next few days with specific honorarium instructions as a token of appreciation for your time. Again, we thank you so much for your time and for your support in our LTBI/TB efforts.

STEP 5: DEBRIEF

After the completion of the interview, the interviewer will debrief with Chibo Shinagawa and Mukta Deia to review notes taken during the interview, meeting recording, and start the process for honorariums.

Appendix E

INTERVIEW QUESTIONS

We are interested in learning more about your tuberculosis services and care delivery at your health center. When you can, please distinguish TB or LTBI in your responses. This helps us understand your health center in relation to TB and LTBI services.

General Demographics

1. In question one, we asked you to rank how big of a problem LTBI and TB are in your patient population, after providing our definition for "problem." However, how did your health center define "problem"?
    a. How do these "problems" differ between LTBI and TB?
    b. Any additional comments

About Your Patient Population

2. In your own words, what role does your patient demographic play in your current LTBI and TB challenges and prevalence? (e.g., foreign-born, immunocompromised, congregate living situations, frequent travel, etc.)
    a. How does this impact your health center's access to provider and patient LTBI/TB-related resources?

TB infection Testing Policies and Practices

3. In question 19, we asked "Which patients does your health center recommend to be tested for TB disease?"Given your response, how does your health center determine who should be tested for TB disease? How does your health center determine who should be tested for LTBI?
    a. For example, do you refer to the CDC's current recommendations, fellow health centers, or specifically tailor your testing recommendations to your patient population?

4. Does your health center use a targeted-testing protocol for patients at high risk for LTBI and/or TB?

a. If so, can you please outline your health center's testing routine including frequency, staff involved, and individuals tested in testing high-risk individuals within your patient population
b. If not, can you explain why your health center, in the context of your patient population, performs general non-targeted LTBI and/or TB testing?

Barriers and Facilitators

5. In our survey, we asked you to identify key barriers to addressing LTBI/TB in your health center, can you please expand on your response?
    a. What type of support is needed to aid your community health center's LTBI/TB response (i.e., specialized training, patient and provider resources, in-language educational materials, social media campaigns, etc.)?
    b. What are your health center's recommendations for community-specific resource building and outreach?
    c. *Clarification Questions:*
        i. Do your current patient education materials reflect and fit your patients' needs? If not, what are the challenges/issues associated with this?
        ii. Do your current medical education sources fit your needs in terms of accessibility and relevance?

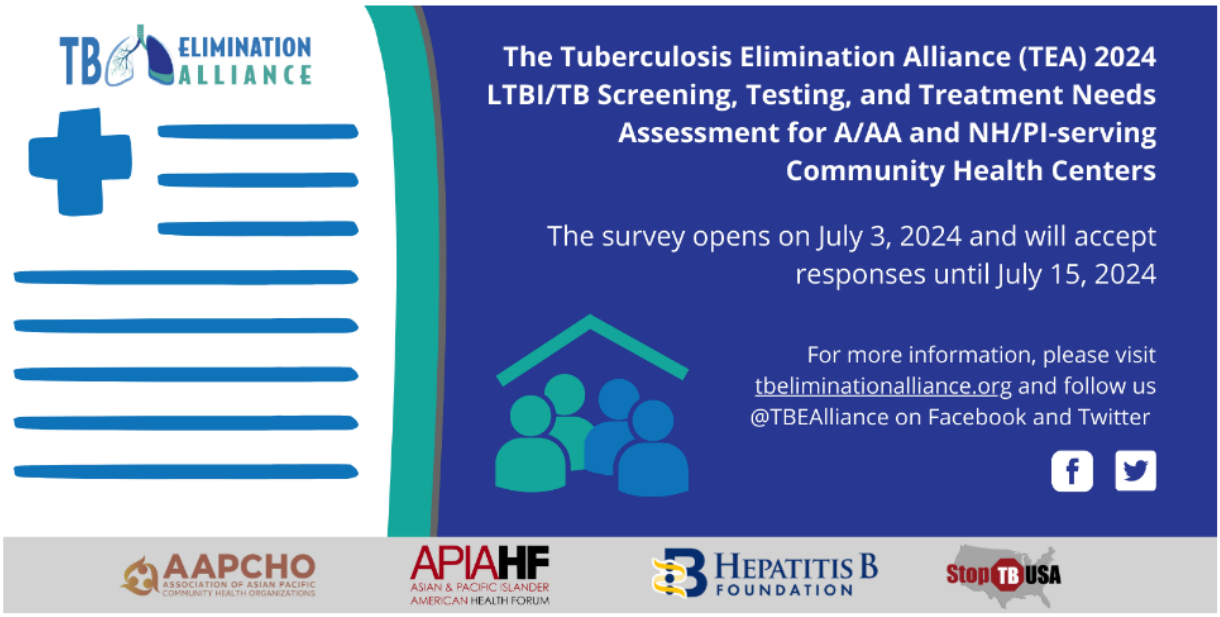
Additional Comments:

6. Do you have any other comments or information regarding your health center's LTBI/TB screening, testing, and treatment practices and needs that you would like to add?

Appendix F

The 2024 LTBI/TB Screening, Testing, and Treatment Needs Assessment for A/AA and NH/PI-serving Community Health Centers

⊕ PAGE TITLE



The Association of Asian Pacific Community Health Organizations (AAPCHO) and The Tuberculosis (TB) Elimination Alliance (TEA) invite the community health centers in the U.S. and U.S. Territories (including the Pacific Islands) surveyed in 2022 to participate in a 30-minute follow-up survey. This survey aims to update the data collected in the 2017 and 2022 AAPCHO-led latent tuberculosis infection (LTBI)/TB needs assessment project by gathering current information on the needs and protocols of community health centers serving A/AA and NH/PI populations for LTBI/TB screening, testing, and treatment.

We appreciate your willingness to share your knowledge and experiences regarding LTBI and TB disease. Upon completing the survey, eligible respondents (e.g., health centers in the U.S. and U.S. Territories, including the Pacific Islands) will receive a $125 honorarium. Please refer to the instructions at the end of the survey for details on the honorarium. The survey will open on July 3, 2024 and will close on July 15, 2024.

For additional resources, please visit TEA's resource page. If you have any questions, contact us at tea@aapcho.org.

The 2024 LTBI/TB Screening, Testing, and Treatment Needs Assessment for A/AA and NH/PI-serving Community Health Centers

GENERAL DEMOGRAPHICS

* 1. What is the name of the health center that you work for?

* 2. What is the location of the health center that you work for?

* 3. What is your position/role at the health center?

* 4. Have you diagnosed someone with LTBI/TB disease at your current practice setting since 2022?

- ◯ Yes, for LTBI only
- ◯ Yes, for TB only
- ◯ Yes, for both LTBI and TB
- ◯ No, for both

For Questions 5 and 6, "problem" indicates any challenges in your health center's capacity to meet your patient population's current LTBI and TB needs.

* 5. How big of a problem is **LTBI** in your patient population? (1 being not a problem, 5 being a major problem)

1	2	3	4	5
◯	◯	◯	◯	◯

* 6. How big of a problem is **TB** in your health center's patient population? (1 being not a problem, 5 being a major problem)

1	2	3	4	5
◯	◯	◯	◯	◯

7. If you would like to provide additional comments on Questions 5 and 6, please explain:

If you answer "not a problem" to both Questions 5 and 6, the following questions may not apply; however, we appreciate your willingness to respond. If interested in additional LTBI/TB resources, please visit tbeliminationalliance.org to learn more.

* 8. Approximately what percentage of your general patient population is born outside of the United States?

- ◯ Less than 30%
- ◯ 30 to 60%
- ◯ Greater than 60%
- ◯ Don't know
- ◯ Not available/not collected

* 9. What racial groups are primarily represented in your patient population? *Please check all that apply.*

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Hispanic/Latino
- ☐ Native Hawaiian/Pacific Islander
- ☐ White
- ☐ Mixed Race
- ☐ Other (please specify)

* 10. What ethnicities are primarily represented in your patient population? *Please check all that apply.*

- ☐ African/North African
- ☐ African American/Black
- ☐ American Indian/Alaskan Native
- ☐ Asian Indian
- ☐ Arabic
- ☐ Burmese
- ☐ Cambodian
- ☐ Chamorro/Guamanian
- ☐ Chinese
- ☐ Chuukese
- ☐ Filipino
- ☐ Hmong
- ☐ Japanese
- ☐ Korean
- ☐ Laotian
- ☐ Marshallese
- ☐ Mongolian
- ☐ Pakistani
- ☐ Palauan
- ☐ Samoan
- ☐ Sri Lankan
- ☐ Tahitian
- ☐ Thai
- ☐ Tongan
- ☐ Vietnamese
- ☐ Don't know
- ☐ Other (please specify)

The 2024 LTBI/TB Screening, Testing, and Treatment Needs Assessment for A/AA and NH/PI-serving Community Health Centers

LTBI/TB INFECTION SCREENING POLICIES AND PRACTICES

* 11. When does your health center screen for LTBI/TB? *Please check all that apply.*

- [ ] A change in immunocompromised status
- [ ] For all new patient visits
- [ ] For patients with a history of TB exposure
- [ ] For TB-focused visits for medical clearance for school/work
- [ ] We do not screen patients for LTBI or TB disease
- [ ] Other (please specify)

* 12. Does your health center use a screening questionnaire before applying a diagnostic TB test?

- ◯ Yes
- ◯ No

* 13. What screening questions do you include? *Please check all that apply.*

- [ ] Are you immunocompromised (e.g., HIV, cancer, autoimmune conditions)?
- [ ] Do you identify as a healthcare worker serving patients with TB disease?
- [ ] Do you currently, or previously, live(d) in large group settings (e.g., single room occupancy units, homeless shelters, assisted living facilities, or prisons)?
- [ ] Are you displaying current symptoms of TB illness (e.g., cough, chest pain, hemoptysis, fever, chills, night sweats, appetite loss, weight loss, malaise, or easy fatiguability)
- [ ] Have you previously been diagnosed with LTBI?
- [ ] Have you previously been diagnosed with TB disease?
- [ ] Have you ever had a positive (+) TB skin or blood test?
- [ ] Have you received the BCG vaccine?
- [ ] Were you born outside of the US?
- [ ] Did you recently immigrate to the U.S. within the last 5 years?
- [ ] Do you frequently travel to countries where TB disease is common, (including Mexico, the Philippines, Vietnam, India, China, Haiti, Guatemala, or other countries with high rates of TB)?
- [ ] Have you lived outside of the US? If so, please indicate when and where:
- [ ] Have you been in close contact with someone with infectious TB disease?
- [ ] Are you in close contact with someone who travels to countries where TB disease is common or have high rates of TB?
- [ ] I don't know which patients are recommended to be screened/tested
- [ ] Other (please specify)

* 14. Where do you find the information for your screening questionnaire? *Please check all that apply.*

- [ ] CDC website (https://www.cdc.gov/tb/)
- [ ] Electronic health record (EHR) systems
- [ ] Fellow community health centers
- [ ] Local/State public health departments
- [ ] TB Centers of Excellence (Curry International TB Center, Mayo Clinic, Southeastern National TB Center, Rutgers Global TB Institute)
- [ ] WHO website (http://www.who.int/tb/en/)
- [ ] Other (please specify)

15. If you do not screen patients for LTBI or TB disease, please explain:

16. What are key challenges/barriers to LTBI screening within your health center? To TB screening?

17. What are your health center's best practices for LTBI screening? For TB screening?

* 18. Do you have a health center protocol that describes who should receive a TB test?

- ◯ Yes, we have a health center wide protocol
- ◯ No, the decision is made by the individual clinician
- ◯ Other (please specify)

* 19. Which patients does your health center recommend to be tested for **TB disease**? *Please check all that apply.*

- [ ] Patients displaying current symptoms of TB illness (e.g., cough, chest pain, hemoptysis, fever, chills, night sweats, appetite loss, weight loss, malaise, or easy fatiguability)
- [ ] Patients who request testing for occupation or school requirements
- [ ] Patients who identify as health care workers
- [ ] Patients who are immunosuppressed
- [ ] Other (please specify)
- [ ] Patients who are born outside the United States
- [ ] Patients who recently immigrated to the United States within the last 5 years
- [ ] Patients who currently, or used to, live in large group settings, such as single room occupancy units, homeless shelters, assisted living facilities, or prisons
- [ ] I don't know which patients are recommended to be tested

The tests described below are typically used for LTBI testing; however, these tests are conventionally used as TB screening tests and are used in combination with additional diagnostic tests to indicate the presence of active TB disease.

* 20. How do you test patients for **LTBI** (> 2 years old)? *Please check all that apply.*

- [ ] TST (tuberculin skin tests) only
- [ ] TST with TB blood test [IGRA (interferon-gamma release assay)] if positive
- [ ] TB blood test [IGRA (interferon-gamma release)] only
- [ ] We do not offer any of these tests

* 21. If a patient has a positive TST or blood test (IGRA), what additional diagnostic services are performed to rule out active **TB disease**? *Please check all that apply.*

- [ ] We order an IGRA for the patient if the TST result is positive
- [ ] We send the patient to do a chest X-ray
- [ ] We collect sputum smears and cultures if the chest x-ray is abnormal
- [ ] We conduct a physical examination
- [ ] We record the patient's medical history
- [ ] We refer any positive tests to our local public health department
- [ ] We do not perform additional diagnostic services
- [ ] Other (please specify)

* 22. Where do you send your chest X-rays for interpretation? *Please check all that apply.*

- [ ] We have access to a radiologist on-site to interpret the chest X-rays
- [ ] We have access to a radiologist off-site to interpret the chest X-rays
- [ ] We send the chest X-rays to a local hospital for interpretation
- [ ] We send the chest X-rays to the public health department's TB clinic for interpretation
- [ ] Does not apply
- [ ] Other (please specify)

* 23. Is LTBI/TB testing provided to underinsured/uninsured patients without cost?

- ◯ Yes, but only for LTBI
- ◯ Yes, but only for TB
- ◯ Yes, for both LTBI and TB
- ◯ No, for both LTBI and TB
- ◯ Not sure

* 24. Do underinsured/uninsured patients use a sliding scale for LTBI/TB testing?

- ◯ Yes, but only for LTBI
- ◯ Yes, but only for TB
- ◯ Yes, for both LTBI and TB
- ◯ No, for both LTBI and TB
- ◯ Not sure

The 2024 LTBI/TB Screening, Testing, and Treatment Needs Assessment for A/AA and NH/PI-serving Community Health Centers

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25. If you do not offer TB tests, do you have a referral site?

- ◯ Yes
- ◯ No
- ◯ Not sure

If yes, please specify where:

26. What are key challenges/barriers to LTBI testing within your health center? To TB testing?

27. What are your health center's best practices for LTBI testing? For TB testing?

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LTBI/TB TREATMENT PRACTICES

* 28. Does your health center provide treatment for LTBI/TB?

- ◯ Yes, but only for LTBI
- ◯ Yes, but only for TB
- ◯ Yes, for both LTBI and TB
- ◯ No, for both
- ◯ Not sure

LTBI TREATMENT PRACTICES

* 29. How do you provide treatment to patients diagnosed with **LTBI**? *Please check all that apply.*

- [ ] Directly observed therapy (DOT)
- [ ] Self-administered therapy (SAT)
- [ ] Electronic directly observed therapy (e.g. Telehealth video appointments)
- [ ] We do not offer treatment for LTBI
- [ ] Mobile directly observed treatment via a mobile app
- [ ] Other (please specify)

* 30. Which treatment regimens for **LTBI** do you prescribe? *Please check all that apply.*

- [ ] Isoniazid & Rifapentine - 3 months (3HP)
- [ ] Isoniazid - 9 months (9H)
- [ ] Rifampin - 4 months (4R)
- [ ] We refer patients to the local public health department's TB clinic
- [ ] Isoniazid & Rifampin - 3 months (3HR)
- [ ] We do not offer any of these regimes
- [ ] Isoniazid - 6 months (6H)
- [ ] Other (please specify)

* 31. Are your health center's clinicians typically involved in the treatment of patients with **LTBI**?

- ◯ Yes, always involved in treatment
- ◯ Sometimes involved in treatment
- ◯ No, never involved in treatment
- ◯ Other (please specify)

* 32. What members of your health center (via telehealth or in-person) are involved in the patients' **LTBI** treatment? *Please check all that apply.*

- [ ] Physician
- [ ] Registered Nurse
- [ ] Nurse Practitioner
- [ ] Infectious Disease Specialists
- [ ] Physician Assistant
- [ ] Community Health Workers
- [ ] Pharmacists
- [ ] Family Members
- [ ] Other (please specify)

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TB TREATMENT PRACTICES

* 33. Are patients referred out for **TB disease** treatment? If so, what organization(s) are patients referred to? *Please check all that apply.*

- [ ] The local health centers in the area
- [ ] The local hospital
- [ ] The local public health department's TB clinic
- [ ] Other (please specify)
- [ ] We don't refer patients out to treatment because we treat all patients in-house
- [ ] No, we do not refer patients out to treatment AND we do not treat patients in-houses

* 34. How do you provide treatment to patients diagnosed with **drug-susceptible TB disease**? *Please check all that apply.*

- [ ] Directly observed therapy (DOT)
- [ ] Electronic directly observed therapy (e.g., telehealth video appointments, mobile DOT via a mobile app, etc.)
- [ ] Monthly evaluation of patient's adverse reactions, adherence to regimen, and signs and symptoms of TB disease
- [ ] Patient TB education services
- [ ] Other (please specify)
- [ ] Provision of incentives and enablers to support regime adherence (e.g., transportation, food, or monetary support)
- [ ] Self-administered therapy (SAT)
- [ ] Refer patients to the local public health department's TB clinic

RIPE TB Drug Regimen: Rifampin (RIF), isoniazid (INH), pyrazinamide (PZA), and ethambutol (EMB)

* 35. What treatment regimens are most often offered to patients who test positive for **drug-susceptible TB disease**? *Please check all that apply.*

RIPE TB Drug Regimen: Rifampin (RIF), isoniazid (INH), pyrazinamide (PZA), and ethambutol (EMB)

- [ ] 6-month RIPE TB Treatment Regimen
- [ ] 9-month RIPE TB Treatment Regimen
- [ ] 4-month Rifapentine-moxifloxacin TB Treatment Regimen
- [ ] Other (please specify)
- [ ] I refer patients to the local public health department's TB clinic
- [ ] We do not offer any of these regimes

* 36. Are your health center's clinicians typically involved in the treatment of patients with **TB disease**?

- ◯ Yes, always involved in treatment
- ◯ Sometimes involved in treatment
- ◯ No, never involved in treatment
- ◯ Other (please specify)

* 37. What members of your health center (via telehealth or in-person) are involved in the patients' **TB disease** treatment? *Please check all that apply.*

- [ ] Physician
- [ ] Nurse Practitioner
- [ ] Physician Assistant
- [ ] Pharmacists
- [ ] Registered Nurse
- [ ] Other (please specify)
- [ ] Infectious Disease Specialists
- [ ] Community Health Workers
- [ ] Family Members
- [ ] Not sure. We refer all patients out to the local public health department's TB clinic

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38. If your health center prescribes for LTBI/TB treatment, is there an on-site pharmacy or a pharmacy physically close to the health center (i.e., < 1 mile away from the health center)?

- ◯ Yes, there is an on site pharmacy
- ◯ Yes, the pharmacy is physically close to the health center
- ◯ No
- ◯ Not sure

* 39. Is LTBI/TB treatment provided to underinsured/uninsured patients without cost?

- ◯ Yes, but only for LTBI
- ◯ Yes, but only for TB
- ◯ Yes, for both LTBI and TB
- ◯ No, for both
- ◯ Not sure

* 40. Do underinsured/uninsured patients use a sliding scale for LTBI/TB treatment?

- ◯ Yes, but only for LTBI
- ◯ Yes, but only for TB
- ◯ Yes, for both LTBI and TB
- ◯ No, for both
- ◯ Not sure

41. What are some of the challenges/barriers your health center faces in terms of LTBI treatment? In TB treatment?

42. What are your health center's best practices for LTBI treatment? For TB treatment?

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ABOUT YOUR MEDICAL RECORDS

* 43. What electronic health record (EHR) system does your health center use?

- ◯ Allscripts
- ◯ AthenaPractice (Formerly GE Centricity)
- ◯ Athena
- ◯ Cerner
- ◯ eClinicalWorks
- ◯ Epic
- ◯ Other (please specify)

- ◯ Greenway Success EHS
- ◯ Greenway Intergy
- ◯ Medent
- ◯ Meditab
- ◯ NextGen

* 44. Does your EHR system record the country of birth?

- ◯ Yes
- ◯ No
- ◯ Not sure

* 45. Do you use your EHR to alert providers for patients at high risk for LTBI/TB infection?

- ◯ Yes
- ◯ No
- ◯ Not sure

* 46. Do you use your EHR to alert providers for testing or treatment recommendations for LTBI/TB infection?

- ◯ Yes, but only for testing
- ◯ Yes, but only for treatment
- ◯ Yes, for both testing and treatment
- ◯ No
- ◯ Not sure

Comments:

* 47. Do you use your EHR to track testing or treatment for **LTBI**? *Please check all that apply.*

- ☐ Yes, but only for testing
- ☐ Yes, but only for treatment
- ☐ Yes, for both testing and treatment
- ☐ No
- ☐ Not sure
- ☐ Yes, but we use another service/platform for testing. *If so, please specify in the text box below.*
- ☐ Yes, but we use another service/platform for treatment. *If so, please specify in the text box below.*

Comments:

TB ELIMINATION ALLIANCE

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PROVIDER AND PATIENT EDUCATION

* 48. Where would you seek clinical consultation for patients with LTBI or TB disease? *Please check all that apply.*

- ☐ The local public health department's TB clinic
- ☐ State health department TB program
- ☐ The local hospital
- ☐ Fellow community health centers
- ☐ Other (please specify)
- ☐ CDC Division of TB Elimination medical officer team
- ☐ TB Centers of Excellence (Curry International TB Center, Mayo Clinic, Southeastern National TB Center, Rutgers Global TB Institute)
- ☐ TB Elimination Alliance (TEA)

* 49. What are your go-to resources for updated medical information about LTBI/TB? *Please check all that apply.*

- [ ] CDC website (https://www.cdc.gov/tb/)
- [ ] Fellow community health centers
- [ ] Local/State public health departments
- [ ] Mobile medical apps (e.g., Up to Date, Epocrates, Medscape)
- [ ] TB Centers of Excellence (Curry International TB Center, Mayo Clinic, Southeastern National TB Center, Rutgers Global TB Institute)
- [ ] TB Elimination Alliance
- [ ] WHO website (http://www.who.int/tb/en/)
- [ ] Other (please specify)

* 50. What are your preferred formats for clinical education about LTBI/TB? *Please check all that apply.*

- [ ] Annual medical conferences (in-person or virtual)
- [ ] Mobile medical apps
- [ ] On-site training
- [ ] Other (please specify)
- [ ] Print materials
- [ ] Websites
- [ ] Online training/Webinars

* 51. What types of patient LTBI/TB education materials are preferred in your health center? *Please check all that apply.*

- [ ] Graphics/posters in the health center
- [ ] Online materials in patient's preferred language
- [ ] Patient education sessions with providers/community health workers
- [ ] Other (please specify)
- [ ] Print materials or pamphlets in patient's preferred language
- [ ] Videos in the health center
- [ ] We do not offer patient TB education materials

* 52. Where do you get your patient LTBI/TB education materials from? *Please check all that apply.*

- [ ] CDC Website (https://www.cdc.gov/tb/)
- [ ] Fellow community health centers
- [ ] Local/State public health departments
- [ ] TB advocacy groups
- [ ] Other (please specify)
- [ ] TB Centers of Excellence (Curry International TB Center, Heartland National TB Center, Southeastern National TB Center, Rutgers Global TB Institute)
- [ ] TB Elimination Alliance (TEA)
- [ ] WHO Website (http://www.who.int/tb/en/)
- [ ] We create our own educational materials (in-language)

The 2024 LTBI/TB Screening, Testing, and Treatment Needs Assessment for A/AA and NH/PI-serving Community Health Centers

FUTURE COLLABORATION AND SUPPORT

We thank you for sharing your knowledge and experiences on LTBI and TB disease. This survey data will be used to inform the need for comprehensible LTBI/TB resources and guidelines that are culturally-relevant and conscious of patients' and health centers's barriers to LTBI/TB screening, testing, treatment, and education.

* 53. Are you interested in learning more about LTBI/TB screening, testing, and treatment? If so, please include your contact information down below.

- ◯ Yes
- ◯ No

Contact Information (Name, Email, Phone Number):

* 54. If so, to better understand how we can support your health center, please specify key barriers to addressing LTBI/TB within your health center. *Please check all that apply.*

- ☐ Lack of partnerships
- ☐ Lack of education, time, staffing
- ☐ Lack of funding
- ☐ Lack of emphasis in UDS or HEDIS measures
- ☐ Lack of resources
- ☐ This is not a focus area for our health center right now
- ☐ Other (please specify)

Following the survey release, we appreciate any respondents willingness to speak more in-depth about their responses. An additional $125 honorarium will be granted for your further participation. We aim to further gauge our respondents' challenges in addressing LTBI/TB, as well as gather and connect health centers with community-oriented LTBI/TB recommendations.

* 55. Would you be willing to receive a follow-up call to speak about your responses? If so, please include your contact information down below.

- ◯ Yes
- ◯ No

Contact Information (Name, Email, Phone Number):

56. What other comments regarding your health center's LTBI/TB screening, testing, and treatment practices or needs would you like to add?

Honorarium Instructions

To receive the $125 honorarium, we will follow-up with your health center's indicated point of contact listed below via email and/or phone following completion of the survey. If you have any questions regarding your survey responses, honorarium, or other logistics, please contact us as tea@aapcho.org.

* 57. Honorarium Point of Contact Information (Name, Email, Phone Number):

Thank you for your participation!

Please visit TEA's resource page and website at tbeliminationalliance.org for more information and updates! For questions or accommodations, please contact us at tea@aapcho.org.

Appendix G

Table 1

Q28 Does your health center provide treatment for LTBI/TB?

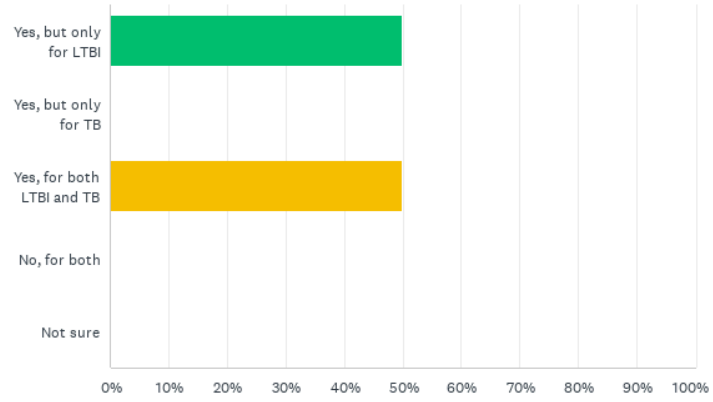


Table 2

Q33 Are patients referred out for TB disease treatment? If so, what organization(s) are patients referred to? Please check all that apply.

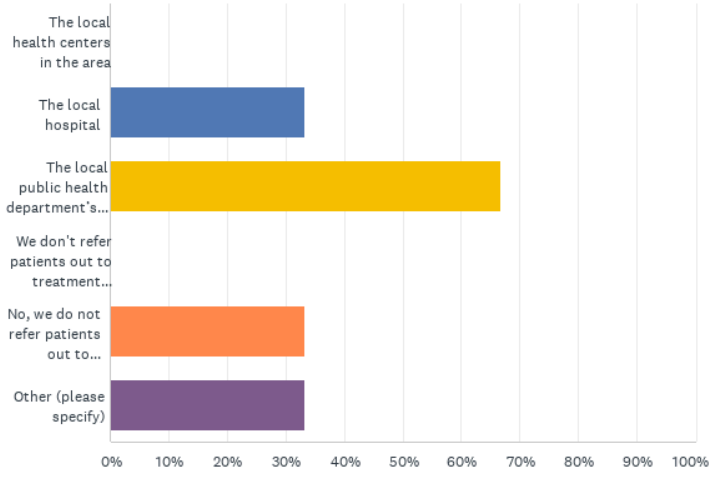
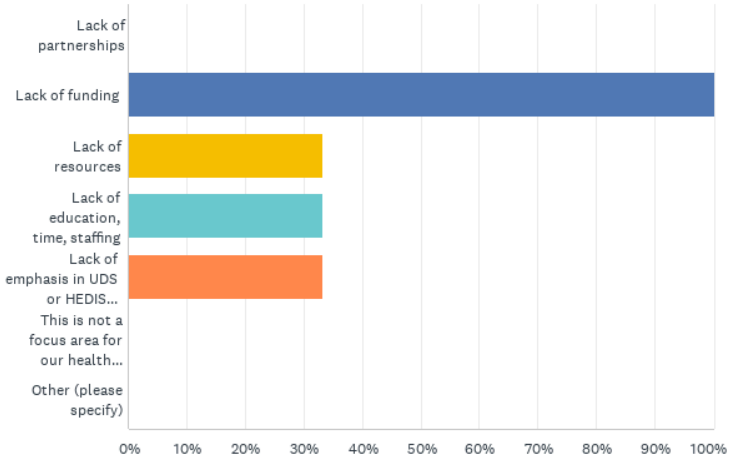


Table 3

Q54 If so, to better understand how we can support your health center, please specify key barriers to addressing LTBI/TB within your health center. Please check all that apply.



Appendix H

2024 Risk Assessment
Barriers/Problems/Challenges

- Manpower Shortage: Insufficient staffing to conduct outreach screening effectively.
- Resource Deficiency: Lack of necessary resources to support comprehensive screening efforts.
- Community Stigma: While stigma has decreased since 2022, it remains a barrier. The community is now more informed, but continuous education is still needed.
- Non-compliance: Patients often do not show up for evaluation, especially those with a positive PPD test.
- Financial Constraints: Limited financial support hinders Active Case Finding (ACF) in the outer islands.
- Transport Issues: Inadequate transportation options to facilitate ACF in the community.
- Financial and Resource Shortfalls: Lack of financial support and essential tools/resources to conduct ACF in the outer islands.
- Off-Island Without Medication: Patients sometimes leave the island without TB medications due to a lack of notification to the program, a challenge that persisted since 2022.
- Patient Mortality: Death of patients during treatment.
- Treatment Refusal: Some patients refuse treatment.
- Stigma: Continued presence of stigma associated with TB.
- Adverse Events: Patients experiencing adverse events from treatment.
- Non-adherence: Patients forgetting to take their medicine.
- Immunosuppression: Patients with immunosuppression complicating TB treatment.
- Completion Rates: TB Control Branch requires a 100% completion rate for both LTBI and TB, but current rates are above 80%. Achieving 100% is crucial for community awareness and prevention.
- Transportation for Patients: Inadequate transport options for patients needing to visit the clinic.
- Parental Opposition: Some parents are resistant to their children undergoing treatment despite educational efforts.
- The city faces a shortage of TB medications for distribution. Due to this shortage, the clinic refers patients needing LTBI treatment to the city Public Health Department, without clear knowledge of the county/city's follow-up protocols.

- LTBI is generally more problematic than TB in this context.
- The recent increase in refugees from Afghanistan has contributed to a rise in LTBI patients.
- Over 60% of the general patient population was born outside the U.S., with the rise in refugee patients significantly impacting LTBI cases.
- There is a disconnect in communication between the clinic and the city/Public Health Department due to ongoing staffing and structural changes. Efforts are being made to resolve these communication issues soon.
- Significant redlining and restrictions prevent the clinic from expanding services, including offering TB treatment, with many services being controlled by the city/county.
- Not having a targeted screening program for LTBI and TB. Screening and testing are basically random and non-targeted.
- 2022: I marked both of them as "major problem" because of poor screening, lack of data (under-reporting), and potential misdiagnosis leading to poor management. The local lab lacks the capacity to do sputum culture. There is also a lack of current knowledge among healthcare providers, including doctors.
- Higher Burden of LTBI: The area served sees a significantly larger load of LTBI patients compared to active TB cases.
- Access Restrictions for Active TB: Active TB cases restrict access to medical care and require coordination with outside entities for treatment.
- In-House Management of LTBI: LTBI can be managed internally at Lowell, unlike active TB which requires external involvement.
- Complicated Screening Procedures: Patients must visit a lab for IGRA (TB blood test) draws/ Sputum collection needs coordination with local or state public health departments, made difficult by the lack of a shared EHR.
- Treatment and Follow-Up Challenges: Ensuring patients follow through with treatment, especially when referred off-site, is difficult. Off-site referrals to a partnered hospital are complicated for patients due to the distance and unfamiliarity with facilities outside the Lowell community. Previously available on-site x-ray services ended in 2022, creating a significant barrier for LTBI/TB assessment and follow-up testing.

Promising Practices

- PITCA Meeting: Provides significant support for sharing resources and information.
- Parental and Community Support: Increased support from parents and the community is necessary.

- EHR System: Implementation of an Electronic Health Record (EHR) system in 2024 for better tracking and management of TB patients.
- Chest X-ray Interpretation: Collaboration with local hospitals for chest X-ray interpretation and the presence of TB doctors for immediate reading.
- In-Clinic Treatment: Efforts to treat patients within the clinic rather than referring them out.
- Improved Diagnosis and Treatment: Faster diagnosis and treatment due to changes in the system, such as quicker chest X-ray interpretation.
- Partnership with the city health department to start LTBI shortened treatment at the clinic site.
- Employee Wellness Screening & Health Fitness (Credentialing Policy)
- Universal Screening: Implement universal LTBI/TB screening for eligible individuals using the Massachusetts State TB Risk Assessment Guide.
- Dedicated LTBI Team: Maintain a dedicated team consisting of a registered nurse (RN) and a nurse practitioner (NP), both trained under the Global Tuberculosis Institute at Rutgers University.
- Refugee Health Focus: Serve as a primary refugee assessment site for the state, participating in CDC and Public Health Department programs to screen newly arrived refugees and other eligible individuals for TB/LTBI.
- Strong Evaluation System: Leverage a robust system for evaluating and closely tracking the refugee population, in partnership with state programs.
- On-Site Treatment: Provide on-site LTBI treatment, which has positively impacted patient outcomes by ensuring treatment accessibility and continuity of care within the same location where patients receive their medical care.
- Electronic Health Record (EHR) Systems: 2022: Used eClinicalWorks. 2024: Transitioned to Epic, improving TB care by increasing access to patient information and facilitating follow-up.
- Screening Approach: Use the Massachusetts State TB Risk Assessment Guide for patient screening.
- Encourage staff to consider TB risk factors for every patient, rather than relying solely on EHR alerts, which may not accurately flag high-risk individuals due to missing data.
- Manual Alerts for Active TB: Manually place alerts on patient charts for active TB cases.
- Restrict on-site access for active TB patients unless they are treated or undergoing treatment, assisted by the Infection Control Team.
- Utilize negative-pressure rooms for safe on-site evaluation of active TB patients.

Recommendations

- Increase Manpower: Hiring and training more healthcare workers to conduct outreach and screening.
- Boost Resources: Allocate more financial and material resources to support TB screening, testing, and treatment.
- Reduce Stigma: Continue community education to further reduce stigma associated with TB.
- Improve Compliance: Implement strategies to ensure patients attend evaluations and adhere to treatment.
- Financial Support for ACF: Secure funding to support Active Case Finding, especially in outer islands.
- Enhance Transportation: Improve transportation infrastructure for patients and healthcare workers.
- Parental Engagement: Strengthen efforts to educate and involve parents in the treatment process of their children.
- Monitor Treatment Adherence: Develop systems to ensure patients do not forget to take their medication.
- Address Adverse Events: Provide support to manage and mitigate adverse events from treatment.
- Strive for 100% Completion: Continue efforts to achieve 100% treatment completion rates for LTBI and TB.
- To enhance TB management at one CHC, it is recommended to establish better communication and coordination with the city and Public Health Department to ensure seamless care continuity. Addressing disruptions caused by staff turnover, particularly the recent departure of a key Nurse Practitioner, is critical, though the upcoming replacement should help stabilize the program. Given the ongoing restructuring within the county and city public health systems, clear and consistent screening protocols tailored to diverse patient populations, such as refugees and U.S.-born individuals, should be developed. The clinic should work to navigate and reduce bureaucratic obstacles that hinder treatment provision and other healthcare services, seeking necessary clearances from the city more efficiently. Additionally, improving the process of obtaining records from outside facilities where patients are referred for TB treatment is essential, as delays in receiving these files can impact patient care.
- To address the barrier of not having a targeted screening program for LTBI and TB, it is recommended that this CHC develop and implement a systematic and focused screening initiative. This program should aim to move away from random and

non-targeted approaches, ensuring thorough and consistent screening efforts. Enhancing the capacity of the local lab to perform sputum culture is crucial, as this will reduce potential misdiagnosis and improve patient management. Additionally, it is essential to collect accurate data to address under-reporting and to provide continuous education and training for healthcare providers, including doctors, to ensure they possess up-to-date knowledge for effective TB management.

- Another CHC implemented several best practices to enhance TB and LTBI management, which can serve as recommendations for other health centers. They use universal LTBI/TB screening for eligible individuals, guided by the Massachusetts State TB Risk Assessment Guide. It maintains a dedicated LTBI team, comprising a registered nurse (RN) and a nurse practitioner (NP) trained under the Global Tuberculosis Institute at Rutgers University. As a primary refugee assessment site for the state, Lowell collaborates with the CDC and Public Health Department to screen newly arrived refugees and other eligible individuals, ensuring a robust system for evaluation and tracking. On-site LTBI treatment has significantly improved patient outcomes by providing accessible and continuous care. The transition to the Epic EHR system in 2024 has enhanced TB care through better access to patient information and follow-up. While relying on manual alerts for active TB cases, this CHC restricts on-site access for untreated active TB patients and utilizes negative-pressure rooms for safe evaluations. These comprehensive strategies ensure effective TB and LTBI management and could be beneficial for other health centers to adopt.