



# NACCHO Informing Local Health Department and Health Center Partnerships: Creative Collaboration Strengthening Tuberculosis Care

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*HHD and HOPE Clinic staff supporting COVID-19 Testing Site in Houston, TX, 2020*

## Informing Local Health Department and Health Center Partnerships: Creative Collaboration Strengthening Tuberculosis Care

**T**uberculosis (TB) is the leading infectious disease killer, claiming 1.5 million lives in the world each year. In the U.S., a total of 7,163 TB cases were reported during 2020 (2.2 cases per 100,000 persons), 20% fewer than during 2019 (2.7 cases per 100,000 persons). Thirty-nine (39) states and the District of Columbia reported a decrease in cases, eight (8) states reported an increase, and three (3) states reported no change. The steep decrease in TB incidence during the COVID-19 pandemic is thought to be the result of reduced transmission and undetected cases.<sup>1</sup> This decrease in documented TB notifications was noted worldwide, propelling the World Health Organization (WHO) in December 2020 to urge TB programs to maintain continuity of essential services for people affected with TB during the COVID-19 pandemic.

WHO's conservative predictive models suggest that the COVID-19 pandemic led to a 25% global reduction in expected TB detection and 26% increase in TB deaths during the preceding 6 months, estimates that equate to 2012 case levels.<sup>2</sup> The WHO cited that the drop in TB program duties was attributed to TB staff being reassigned to COVID-19 related duties, reduction in the number of healthcare facilities treating people with TB, a decline in data collection, diagnostic testing services used for TB shifting to COVID-19 testing, and the shifting of budgets to pay for COVID-19 response activities.<sup>2</sup> While COVID-19 response efforts are impacting TB services, stakeholders continue to take measures to mitigate the impact while maintaining essential services.

<sup>1</sup> Deutsch-Feldman M, Pratt RH, Price SF, Tsang CA, Self JL. Tuberculosis — United States, 2020. MMWR Morb Mortal Wkly Rep 2021;70:409–414. DOI: <http://dx.doi.org/10.15585/mmwr.mm7012a1external icon>.

<sup>2</sup> WHO. COVID-19: Considerations for tuberculosis (TB) care. December 15, 2020 [https://www.who.int/docs/default-source/hq-tuberculosis/covid-19-tb-clinical-management-info-note-dec-update-2020.pdf?sfvrsn=554b68a7\\_0](https://www.who.int/docs/default-source/hq-tuberculosis/covid-19-tb-clinical-management-info-note-dec-update-2020.pdf?sfvrsn=554b68a7_0)



Based on the National Association of County and City Health Officials (NACCHO) and the Health Resources and Services Administration (HRSA) 2019 Case Study examining U.S. Local Health Department and Health Center (LHD-HC) partnerships to address TB<sup>1</sup>, three goals were identified for this project:

1. Identify how the LHD-HC partnerships pivoted during the COVID-19 response to provide services for both TB and COVID-19.
2. Identify the facilitators, drivers, and lessons learned within the LHD-HC partnerships collaborations during the COVID-19 response.
3. Inform on workforce development and capacity building in LHD-HC partnerships engaged in COVID-19 response, inclusive of impacts on TB prevention and control, and other services.

The methodology for this project initiated with a convenience sample of local health departments and health centers invited to complete an electronic pre-assessment consisting of 8 open-ended questions. The pre-assessment responses and 2019 study evaluation instruments informed the creation of the evaluation tool for the 2021 study. Based on pre-assessment data, matched pair LHD-HC organizations were identified to participate in a 90 minute telephone interview. With respondent permission, all interviews were audio recorded, transcribed and analyzed for the development of three (3) case studies partnerships:

- Houston Health Department – HOPE Clinic (Texas)
- Grand Forks Public Health – Spectra Health (North Dakota)
- Lynn Board of Health – Massachusetts General Brigham North Shores Pulmonary Clinic (Massachusetts).



*HOPE Clinic staff supporting COVID-19 Testing Site in Houston, TX,*

<sup>1</sup> 2019 Informing Local Health Department and Health Center Partnerships: Creative Collaborations Strengthen Tuberculosis Care in Three Communities: <https://www.naccho.org/uploads/downloadable-resources/Creative-Collaborations-Strengthen-TB-Care-in-Three-Communities.pdf>



**During the COVID-19 response, partners pivoted to provide services for both TB and COVID-19 by:**

- Initiating staffing changes
- Using tele-medicine and other digital communications
- Changing TB protocols and processes

- **Successes included:**

- Shared TB service commitment which strengthened the partnerships
- Staff learned new skillsets
- Greater public awareness of public health

- **Challenges included:**

- Closure of clinics and health departments
- Increased safety protocols and need for supplies
- Insufficient staffing due to staff turnover and burnout
- Quick shifts in technology needs and innovation
- Lockdown protocols and patient fear

- **Participating in past NACCHO projects and this interview process provided the LHD-HC interviewees an opportunity to reflect upon the past year and identify:**

- Lessons learned
- Gaps in service provision
- Ways to improve protocols
- Need to develop pandemic preparedness plans
- Opportunities for improving communications
- Cross-train staff

- **Workforce development and capacity building needs included:**

- Increased staffing
- Collaborative planning and preparedness
- Process improvement
- Outreach to community partners on TB prevention and control



*HOPE Clinic Staff supporting COVID-19 vaccinations, 2021*

## Texas — Houston Health Department and HOPE Clinic: Addressing Tuberculosis Care During the COVID-19 Pandemic

### BACKGROUND

The Houston Health Department (HHD) located in Houston, Texas provides programs and services in epidemiology and disease reporting, consumer health services, immunizations, primary care, human services, laboratory services, lead-based paint hazard control, pollen and mold counts, and pollution control and prevention.

The Tuberculosis (TB) program provides services for the Greater Houston area, between Fort Bend County and Harris County and runs the TB program through two main clinics: Sunnyside Clinic and Northside Clinic. These clinics provide services for both latent and active TB infection, including clinical assessment by medical providers, laboratory services, x-rays, and case management. Patient identification is produced from school and employment physicals and refugee and immigrant arrivals. State reporting requirements result in referrals from primary care physicians, hospitals, and health clinics.

In 2019, there were 150 active cases of TB reported for the jurisdiction. In 2020, 142 cases of active TB were reported with over 700 contacts identified yearly through the contact investigations to estimate the burden of Latent Tuberculosis Infection (LTBI).

To manage the case burden and ensure medication compliance, the TB program conducts home visits to offer face-to-face Directly Observed Therapy (DOT) for latent and active cases. Video DOT (VDOT) is used for LTBI patients on the 3HP program. The 3HP is one of four LTBI treatment programs that HHD utilizes in their services. 3HP requires once-weekly isoniazid-rifapentine (INH-RPT) for 12 weeks by DOT. To initiate VDOT, an application (app) is downloaded to the patient's phone. Once the app is opened, it records a video of the patient taking the medications. The video is sent to DOT staff who review it to assess compliance. The 3HP program is also implemented at their health center partner, HOPE Clinic.



- **Houston, Texas hosts a population of 2.31 million people.**
- **In 2019, there were 150 active cases of TB reported for the jurisdiction.**
- **In 2020, 142 cases of active TB were reported with over 700 contacts identified through contact investigations.**
- **Partnership initiated in 2017 with the goal to decrease the number of LTBI's converting to active cases.**

HOPE Clinic identifies itself as a Federally Qualified Health Center (FQHC) servicing the Greater Houston area. FQHC's are community-based health care providers that receive funds from the HRSA Health Center Program to provide primary care services in underserved areas and are also often referred to as HRSA Funded Health Centers. The facility works in an urban environment with its roots developed over the last 12 years with their non-profit parent organization, Asian American Health Coalition. HOPE Clinic has four locations in the Greater Houston area, which serve over 23,000 unique patients per year, providing services in primary care, pediatrics, family practice, OB/GYN, eye care, and behavioral health and dental care. The clinic serves the uninsured, underinsured, those with limited English proficiency, and low-income patients. It's culturally and linguistically competent manner provides services in over 40 different languages and seeks to hire individuals that represent the cultures they serve.

HOPE Clinic's TB Program is integrated into routine care. During the patient intake process, patient screening or referral for TB is available. One method of referral is through the county refugee intake program, wherein a patient is referred for LTBI treatment. Most patients have their physical exam and routine care with the clinic, while a few only come for the LTBI treatment, seeking their medical care elsewhere. The medical provider has oversight of the visit, writes the prescriptions, and provides other medical orders, including an LTBI treatment program.

## PARTNERSHIP

Like most health centers, HOPE Clinic maintains a traditional relationship with the local health department with mandated disease reporting required to the state from all licensed medical professionals. HOPE Clinic identifies active and latent TB patients and reports them to the Houston Health Department. The TB Program partnership initiated in 2017 as a LTBI service site using the 6-9 month INH regime, with monthly case management until completion.

In 2018, Houston Health Department approached HOPE Clinic to adopt the 3HP regimen, which allowed the partnership to transform from a loosely based agreement to a more pronounced collaboration. A formal Memoranda of Understanding (MOU) is in place for Houston Health

Department and HOPE Clinic, which states that the clinic will see 20-25 patients per quarter. The partnership initiated seeing patients in February 2018.

When a patient is placed on a 3HP regimen, medications are provided by HHD, and DOT is conducted with a HOPE Clinic nurse visit, which are provided by a medical assistant. Medication orders go to HHD to fill and transport to HOPE Clinic who issues the medications to the patients and then engages in DOT or VDOT. HOPE Clinic has a variety of in-house laboratory services at each of the clinics and can provide Tuberculin Skin Test (TST) and Interferon Gamma Release Assay (IGRAs). Grant funding assures access to laboratory services, for low income or uninsured clients.

*"The LHD-HC are both focused on the same patient population and the same goal for the community. We both have like-minded interests in serving the same population. There is a shared terminology and the same mission in mind, which is the overall health of the community."*

*-Kara Green, HOPE Clinic, TX*



In addition to this grant funding, the state's incentive and enabler program is vital to help the patients successfully complete their TB treatment. The incentive and enabler program is maintained through the HHD TB Program. One enabler is the use of Langston House, a shelter for smear positive patients that has capacity for five patients. Other enablers are distributed based on needs identified from a social services screening. The social need (i.e. food, transportation) is supplied by HHD or a referral process with partnering organizations is utilized to address the need. Incentives include the receipt of \$10 incentive cards issued by HOPE Clinic at the patient's weekly DOT visit. The cards are restocked when depleted in ten card increments by HHD. In addition to the tracking of the cards, the services are also tracked on a spreadsheet by the HHD. HOPE Clinic also maintains their own tracking system.

There is dual documentation in the HOPE Clinic's electronic medical records and the HHD's paperwork. The patients are in communication with both HOPE Clinic and HHD employees which allows for quality assurance in customer service and program compliance.

## TB & COVID-19

**M**arch of 2020 brought major changes to TB service provision with most programs in Preventive and Chronic Care shifting to COVID-19 specimen collection and testing, contact investigations, and eventually, vaccination. Houston Health Department TB staff were shifted to provide respiratory fit testing for all HHD staff and hospital personnel throughout the community, while simultaneously managing the TB program. Additionally, HHD TB staff were leveraged to provide contact investigation training to other personnel.

HOPE Clinic saw TB screenings and enrollment of new patients decline due to the COVID-19 pandemic. This declination was attributed to facility closures, lockdown protocols and patient fear of COVID-19 exposures while seeking medical services. To reduce possible exposures with patient encounters, focus shifted to IGRAs on patients rather than skin testing (TSTs). Conversations between HHD and HOPE Clinic resulted in the Houston Health Department managing VDOT and tele-health visits for existing TB patients and the latent TB 3HP program as HOPE Clinic did not have the capacity to conduct VDOT or tele-health at the beginning of the pandemic.

Protocols and processes for TB service provision changed as patients and clinicians were limited by social distancing and masking requirements. Both HHD and HOPE Clinic had patients express concerns about coming into the clinic to be seen or having HHD staff come to the home. While no patients dropped out of the TB program during the height of COVID-19, there were some delays and elongation of treatment regimens. Other changes included implementing a questionnaire on COVID-19 symptoms and contacts, TB medication drop-off at home, and an increase in VDOTs for existing patients.



*HHD Staff, Carlos Bustamante and Shadrack Omwenyeke help with COVID-19 testing and respiratory fit testing in the community, TX, 2021*

## SUCCESSES & CHALLENGES DURING COVID-19

**B**oth Houston Health Department and HOPE Clinic agreed that a major success they shared during the COVID-19 pandemic was that they did not lose a single TB patient from their program. They also felt that their ongoing rapport and relationship with their patients helped to ease any concerns about COVID-19 transmission and continuation of TB treatment.

Staff commitment to perform multiple tasks and learn new skills was also a success seen by both HHD and HOPE Clinic. The sense of teamwork and pulling together to get the job done despite the public and staff concern about COVID-19 aided the partners in providing continuity of care to TB patients, while simultaneously responding to the pandemic.

HOPE Clinic was invited to sit in on the Public Health Emergency meetings which increased their understanding about emergency methodologies and approaches, and testing and vaccine distribution. This understanding will be used to improve their protocols and processes for future public health emergency events.

The onset of the COVID-19 pandemic saw an initial closing for both HHD and HOPE Clinic, with a subsequent pause in some programs and services. Communications were slowed between the two partners and with TB patients as a result.

The biggest challenge both Houston Health Department and HOPE Clinic faced was staffing. Staff turnover, burnout, and increased job demands created barriers and frustrations in providing both continuity of TB care and response to the pandemic. The switch to VDOT and tele-medicine was slow to start due to limited resources in terms of funding, equipment and supply availability, and staff.

This coupled with the additional social and mental health needs of the TB patients placed an increased strain on the TB program specifically, and health care in general.

*"I want to say that we really care about our patients. We really care about if they're homeless. We care if they don't have food. Most of the people have a passion for public health. They love taking care of people. And they didn't miss a beat, they just kept moving."*

*-Tonia Ellison , Houston Health Department, TX*

## LESSONS LEARNED

**B**oth partners expressed the need to update plans and protocols to provide continuity of care for TB patients. Increased supplies, identification of

roles and responsibilities, and detailed protocols and processes for TB service provision need to be collaboratively developed by the partners. In addition, protocols for providing Preventive and Chronic Care during a pandemic are needed so that these critical services do not have to be suspended as service demands require staffing shifts for response.

The COVID-19 pandemic brought a heightened awareness of the need for capacity building via staff cross-training, internal and external messaging, and identification of who does what, when, and how.

There was an expressed desire to prioritize the partnership's work around active and latent tuberculosis so that every organization involved, from pharmaceuticals to laboratory services and city/county health to private primary care associations, has the same goals and mission around TB. In this way, LBTIs do not convert to active TB disease and reduce the burden of active TB cases.

A final reflection by both partners was that the COVID-19 pandemic highlighted their staff and organization's ability to adapt and change to the shifting demands of the pandemic. The ability to maintain continuity of care to existing TB patients and to shift to screening for new TB cases as the pandemic began to ease is both a lesson learned and a success.



HHD, Tonia Ellison at Testing site in TX, 2021



HHD and HOPE Clinic Staff, TX

*"There's so much emotional energy towards COVID and people are honestly afraid. I think our clinic did an amazing job for people being willing to stay on the front lines, and I know we aren't hospital frontline, so we didn't have the same kind of day-to-day intensity like the ICU or the hospital. But to continue to show up for work [and] be willing to tackle this new role, I can't say enough about how the team really got together to do that."*

*-Kara Green Hope Clinic, TX*





## At a Glance

### Facilitators/Drivers

- Open communication and established trust was critical prior and during the COVID-19 response and additionally supported HC access to the larger public health infrastructure in their state.
- Incorporated implementing the COVID-19 infection control, vaccination and testing, and other protocols while managing the TB program.

### Barriers/Challenges

- The implementation of VDOT and tele-health platforms was a challenge to the existing infrastructure, which required building new protocols and processes.
- Supervisors and TB Program staff assisted in helping train other LHD staff and hospital employees, as well as fit-testing hospital employees.
- LHD TB program employees were activated to work COVID-19 testing sites and the call centers.

### Lessons Learned

- The need for capacity building via staff cross-training, internal and external messaging, and identification of roles and responsibilities.
- Prioritize the partnership's work around active and latent TB so that every organization involved has the same goals and mission around TB.

### Successes

- No deaths attributed to TB or COVID-19 in their client population.
- Provided continuity of care with no decrease in caseload.

### Lessons for Future Partnerships

- Ensure the LHD can provide support with comprehensive training, not only on the 3HP program requirements, but also on other operational processes.
- Evaluate the HC to determine the capacity to take on the responsibility using their own staff and can sustain the program without compensation.
- The significant amount of travel time and communication requires the LHD to have the capabilities and capacity to initiate the programs at the HC.





Ashley Krone draws up COVID-19 vaccine, Grand Forks HD

## North Dakota — Grand Forks Health Department and Spectra Health: Managing Tuberculosis Care During the COVID-19 Pandemic

### BACKGROUND

**G**rand Forks Public Health (GFHD) has programs in chronic disease prevention, tobacco prevention, maternal child health, emergency preparedness, opioid stewardship, wellness, disease prevention, mosquito control, immunizations, and environmental health. The Grand Forks Health Department's TB Program consists of one employee, a registered nurse, who serves as the area expert on TB matters.

The nurse conducts all TB surveillance activities including reporting to the State Health Department, case managing active TB cases, case managing LTBI cases, conducting contact investigations for active cases, medication issuance and management, and outreach into the community. VDOT is used after approximately two weeks of face-to-face DOT. The nurse issues the TB medications for each active client and counts out the appropriate dosage. Initiation of VDOT requires a patient signature on an informal agreement form.

Although North Dakota is a low incident state for TB, Grand Forks County tends to have the most burden of TB in the state with 1-2 active cases per year. The GFPH nurse assesses all cases face-to-face and then meets with the LTBI cases once per month to conduct a medical assessment and medication issuance refill. The incentive or enabler program at the GFPH is limited due to budget restrictions. The nurse transports patients when needed and provides social service needs. If there is a documented need for housing or resources, this is managed by the State Office on a case-by-case basis. The nurse also collaborates frequently with her health centers for services. Spectra Health (formerly known as Valley Community Health Centers) identifies as a Federally Qualified Health Center (FQHC) established in 2004, housing clinical sites in Grand Forks and Larimore, North Dakota. The FQHC term is outdated and the preferred term is HRSA Funded Health Center. The Grand Forks urban clinic opened in 2014 and offers medical and dental services. The Larimore rural clinic opened in 2007 and provides medical services, including acute and primary care, family planning (Title 10 services), integrated behavioral health, social services, and addiction services.



- **Grand Forks County, North Dakota hosts a population of 56,000 people.**
- **In 2019, there were 8 active TB cases. LTBI cases average 15-20 clients at one time, which equates to 20-40 per year.**
- **In 2020, there were 5 active cases of TB.**
- **There is one hospital within a 70-mile radius.**
- **Partnership initiated**

The FQHC also provides services via certified application counselors that assist patients in signing up for insurance if they are uninsured, whether it be Medicaid, Medicare, or the ACA marketplace. Patients are offered a discount program if they are uninsured or underinsured based on their family size and income.

The TB department consists of staff that are cross-trained; there are no staff specifically assigned to TB duties and/or management. The laboratory does the QuantiFERON testing, the RNs and LPNs conduct the TST, and the RNs read the TSTs. All staff do the charts and work with referrals.

Spectra Health has been a refugee resettlement site that attends to several refugee populations (e.g. Bhutanese, Nepali, Somali, Arabic, Congolese, etc.). These refugees were originally the target population for the TB clinic. Notification of refugees comes from the State Refugee Coordinator or Lutheran Social Services (LSS); however, LSS closed due to the decrease in refugees during COVID-19. Currently, all TB referrals come directly from the State Refugee Coordinator.

In addition, Spectra Health screens for new Americans and foreign-born populations. Policies implemented during the 2016-2020 federal administration significantly decreased the number of refugees, immigrant, and foreign-born populations. The COVID-19 pandemic supported travel bans with limitations on immigration and refugee resettlement. Active screening processes were ceased during the COVID-19 pandemic for these populations.

## PARTNERSHIP

The collaboration for the TB Program began when the refugee resettlement program was transitioned from Ultra Health System to Spectra Health, who conducted the physicals for the refugee health program, including TB screening, testing, and evaluation. The collaboration grew when GFPH needed a partner for IGRA testing; now TB patients identified by the Grand Forks

Public Health are referred to Spectra Health for evaluation. The population usually has socio-economic or financial issues, and Spectra Health puts these patients on a sliding fee scale in order to receive the proper medical care they need for services.

Patients are seen at Spectra Health for TST or IGRA. If the test is positive, they are evaluated by a provider who then decides if an x-ray is needed. If

tests are negative, they are referred to Grand Forks Public Health for preventive treatment with a 4R prescription from the medical provider at Spectra Health. The 4R is an LTBI treatment program consisting of rifampin (RIF) given on a daily frequency for four months for a total of 120 doses. Spectra provides the prescription and GFPH provides the medication. Patients are referred to Spectra Health for laboratory services such as Liver Function Tests (LFTs). If they are not tolerating the medications or if any other issues are identified during treatment, clinical evaluation is conducted by the medical provider.

*“They’re [Spectra HC] the kind of department that will call you after hours, even when they’re closed. They’re so dedicated to their work. And they are filling the gap of services that are so needed in this specially, vulnerable population. They’re just very dedicated to that. They’re just willing to work hard and bend over backwards and do whatever is needed.”*

*-Ashley Krone, Grand Forks Health Department*

Once referred to the GFPH, if the patient tolerated the medication well, Spectra Health is only involved for case closure; all medical management is done by GFPH.

Grand Forks Public Health TB department sought out Spectra Health with the knowledge that they had a full laboratory to assist with IGRA blood draws. TSTs are conducted at Spectra Health on patients that are not able to get the IGRA. GFPH medically manages patients with Spectra Health so that patients can access more social services resources. GFPH manages the TB portion of patient medical case management until completion of treatment. During a contact investigation, GFPH performs the documentation and assessment and refers to Spectra Health for the IGRA/TST.

## TB & COVID-19

COVID-19 changed the ways in which TB services were provided for both Grand Forks Public Health and Spectra Health. The GFPH TB nurse was shifted to the COVID-19 contact investigation team, and later became the vaccination lead. TB service provision and client follow-up became secondary due to the staffing demands of the COVID-19 response efforts.



*Grand Forks Public Health performing COVID-19 testing at test site, ND, 2020*

GFPH closed their doors to all healthcare, with staff working from home using tele-medicine. A letter from the TB nurse was sent to all existing patients explaining the new protocols and providing a personal cell phone number, as the technology for office phone call forward was not functional. Active patient visits were conducted via tele-medicine, with brief, socially distanced face-to-face visits once every two weeks.

Initially, Spectra Health put a hold on any TB in-patient visits, and later did TSTs or QuantiFERON testing in a designated “sick room” in the clinic. Curbside TB testing and medication pick-up was also provided. Spectra Health staff were trained in-house on screening for COVID-19, cleaning protocols throughout the clinic, and gown and glove protocols.

During COVID-19, GFPH took on the role of making appointments for TB patients at Spectra Health. Additionally, Spectra Health performed all TSTs as GFPH was closed. Because of the partnership prior to the pandemic and the positive working relationship, these shifts in roles were easy to make.

## SUCCESSES & CHALLENGES DURING COVID-19

One of the major successes during the COVID-19 pandemic was the positive, constant communication between Grand Forks Public Health and Spectra Health. Both partners expressed the belief that the continuity of TB service provision was because of the pre-existing communication and working relationship that had been established via a NACCHO grant received in 2020.

Another success was the ability to adapt and change as the pandemic progressed. For example, moving TB testing from GFPH

to Spectra Health and modifying each other's roles for TB services, while still responding to the pandemic, was considered an achievement.

Both partners had their share of challenges due to the pandemic. The switch to tele-medicine took a financial toll on the Grand Forks Public Health as the equipment capacity had to be upgraded. The closing of GFPH saw the burden of patient care shift to Spectra Health. Laboratory results were delayed slightly as the state lab was over-burdened with COVID-19 testing. Delays in communication were experienced because staff were working both their regular job and aiding with COVID-19 contact investigations, testing, and vaccination. And finally, staff turnover, burnout, and training were also viewed as a challenge.

## LESSONS LEARNED

**G**rand Forks Public Health and Spectra Health praised the work they had done prior to the COVID-19 pandemic as they began to educate the primary care medical community about TB; these efforts were suspended once COVID-19 hit the community. Both partners plan to work together to provide more TB outreach and education to the medical, congregate care, academic, and general community once the COVID-19 pandemic subsides.

Workforce capacity building for internal and external communications, cross-training, detailed protocols and processes, and professional development training focused on flexibility and resilience were all cited as next steps for implementation post COVID-19.

A final reflection by both partners was that the COVID-19 pandemic allowed them to build on their strengths in TB services provision. The Grand Forks Public Health has the TB expertise and resources, while Spectra Health has the laboratory testing and support services.

*"A pandemic can happen in your lifetime. Lessons learned is really having the right people in the right positions and really focusing on having that robust infection control plan...We have a disaster plan, active shooter or inclement weather and whatnot, but never thought we would have to need one for pandemic."*

*-Betty Housey, Spectra Health*





## At a Glance

### Facilitators/Drivers

- Positive open communication and established trust provided TB continuity of care.
- GFPH was able to market and support the HC's other programs and build trust for clients to get their healthcare services at Spectra.

### Barriers/Challenges

- The Implementation of VDOT and tele-health platforms was a challenge to the existing infrastructure, which required building new protocols and processes.
- Inconsistent staffing levels due to staff turn-over, voluntary furloughs, extended leave, staff burn-out, transitions to work from home/virtual environments and quarantine/isolation due to COVID-19.
- LHD closure shifted burden of care to the HC; both partners put a hold/limited TB in-patient visit.

### Lessons Learned

- Workforce capacity building for internal and external communications, cross-training, detailed protocols and processes, and professional development focused on flexibility and resilience.

### Successes

- Prior positive working relationship made shifts in workflow easier.
- Positive constant communication provided TB continuity of care.
- Ability to adapt and modify roles for TB services while responding to the pandemic.

### Lessons for Future Partnerships

- The partnership is worth it as you can expand the expertise and services available to clients for better care.
- The partnership helps to lessen the burden on the TB program and builds capacity for both the LHD and the HC.
- Ensure regular meetings on how things are going and ask questions for process improvement.



*Patient receiving COVID-19 vaccination in Lynn, MA, 2021*

## Massachusetts — Lynn Board of Health and North Shore Pulmonary Health Clinic: Creative Solutions to Tuberculosis Care During the COVID-19 Pandemic

### BACKGROUND

The Lynn Board of Health, located in Lynn, Massachusetts, consists of three full-time employees: the health director, the public health nurse, and an administrative assistant. There are other outside contracts that are program specific (i.e. tobacco cessation program, opioid program). The public health nurse is responsible for the TB program which, for the current calendar year, has had seven active TB cases.

The TB program provides case management for active TB cases, including DOT, contact investigations, and reporting and surveillance activities. The program is consistently notified of TB Class B1 and B2 for which they must follow-up with the appropriate medical case management. TB Class B1 is a pre-immigration medical examination designation of a refugee or immigrant who has signs and symptoms, physical exam findings or chest x-ray suggestive of TB disease but has negative sputum smears and cultures; or the individual has a history of treatment of active TB disease. TB Class B2 designation is for individuals with a positive IGRA or TST, but other evaluation for active TB is negative. The nurse makes the appropriate referrals for the medical evaluation and provides the Purified Protein Derivative (PPD) for the B1/B2.

The incentive and enabler programs are run through the State Office; funding is inconsistent, which frequently results in the nurse using her personal funds to assist the families. The Lynn Board of Health does have a social services program which assists with food during emergency. The TB program frequently collaborates with its health centers, including North Shores Pulmonary Clinic.

The Massachusetts General Brigham North Shores Pulmonary Clinic (North Shores) is housed in the Massachusetts General Brigham Hospital in Salem,



- **Lynn, Massachusetts hosts a population of 89,050 people making it the 9<sup>th</sup> largest city in Massachusetts.**
- **In 2019, there were 8 active cases of TB reported for the jurisdiction.**
- **In 2020, there were 5 active cases of TB reported for the jurisdiction.**
- **There are 25-30 languages spoken by the residents.**

Massachusetts. The five board-certified pulmonologists who rotate through the evaluation clinic diagnose and treat a broad range of pulmonary conditions including active and latent tuberculosis.

North Shores TB clinic is primarily operated by a nurse and clinic coordinator and runs two times per week. It is a state-run clinic, so uninsured and underinsured patients may access it for pulmonary services. These services include clinical assessments, laboratory (TST, IGRA, QNF-Gold, Sputum, Blood), x-ray, treatment, and nurse case management. North Shores works with many other Local Health Departments, but Lynn Board of Health has the most TB cases.

Most of the North Shores' TB program clients are from outside of the U.S. and consist of immigrants who have recently come to the U.S. or are from TB endemic countries and have been living in the U.S. Some immigrants access the TB clinic to complete their civil surgeon exams via a referral for chest x-ray after positive TST or IGRA. North Shores also serves employees who have tested positive during employee screenings.

The physicians see all new patients and evaluate them for active or latent tuberculosis, determine the treatment regime, and follow up as appropriate. The LTBI patients are case managed and followed-up by the nurse with a 4, 6, or 9-month treatment plan. Medications are provided to the patient by the nurse and followed-up monthly for symptom assessments and medication refills until the treatment plan is completed.

If the patient is an active TB case, monthly follow-ups are scheduled with the physician until treatment is ended. Reporting of active cases of TB disease are documented in the state's system. Medications are issued to the active case patient during each monthly visit, which the local health department uses to perform DOT.

## PARTNERSHIP

**N**orth Shores Clinic provides the laboratory, x-ray, assessment, medication plan, clinic notes, and other clinical documentation to the Lynn Board of Health. DOT of active cases is a shared responsibility between North Shores and the Lynn Board of Health. DOT is conducted when the patient is at North Shores for monthly visits, and the remainder are conducted by the Lynn Board of Health daily.

*"We always had a great team, even before COVID. It's communication, I can't stress that enough. It is everything. I think things worked out really well with my patients, as far as the TB went. I mean, obviously it was scary with COVID."*

*-MJ Duffy Alexander, Lynn Board of Health*

Contact investigations and DOT are performed by the Lynn Board of Health. TB education is performed at each treating site, but the majority is performed by the Lynn Board of Health.

Patient management is dependent upon their classification. If the patient is a refugee, they are referred to Lynn Community Health Center for a health assessment and TB evaluation. If the patient is an immigrant, the public health nurse will administer the PPD to begin the TB evaluation and then refer to the North Shores Pulmonary Clinic for additional medical evaluations including a chest x-ray.

For active cases identified in the hospital, discharge of the patient is only done with a referral to the TB program and either the patient has medication in hand, or the public health nurse arranges for medications for DOT.

The Lynn Board of Health and North Shores Clinic both manage the TB cases. When there is an active TB case as an in-patient in the hospital, North Shores contacts the corresponding Local Health Department and the State Health Department for case notification. Lynn Board of Health will ensure the patient is being discharged into a good situation before coordinating the discharge from the hospital. The TB Drug Assistance Program ensures the TB case has medications in hand prior to discharge. Lynn Board of Health will then make a home visit to assist with medications, perform DOT, and reinforce TB education. If the patient has any problems, Lynn Board of Health notifies North Shores, and a clinic appointment with a physician is scheduled. The case is medically managed by North Shores until completion of treatment.

## TB & COVID-19

**W**ith only one public health nurse handling both TB and infectious diseases, COVID-19 impacted the Lynn Board of Health in several ways. Retired nurses, school nurses, and bilingual staff were hired and trained to handle the COVID-19 contact tracing, testing, and vaccination. Tele-health was limited and not always available for DOTs, so TB patients were seen in person, either at their home using social distancing guidelines and masking (Lynn Board of Health) or as a drive through in the clinic parking lot (North Shores). The local pharmacy provided medications which were picked up by Lynn



*Patty Conway, North Shores Pulmonary Clinic*

Board of Health and delivered during the face-to-face DOTs, as TB patients were concerned about going out in public and contracting COVID-19. Additionally, the public health nurse picked up and delivered sputum specimens directly to the North Shores Clinic lab for testing to ensure continuity of care. If it was seen that a TB patient needed food assistance because of the COVID-19 constraints, they were connected to the Lynn Board of Health's Food Management program.

The North Shores Clinic closed in March 2020 which caused some LBTI patients to be lost to follow up. Others were seen in the parking lot after an initial phone assessment in all kinds of weather conditions. As a two-person clinic, the North Shores nurse supported emergency room triage efforts while managing the TB patients' DOTs. Referrals for LBTI patients were deferred until the clinic was opened for new patients; only current cases were processed for testing and treatment.



## SUCCESSES & CHALLENGES DURING COVID-19

A good working relationship based on consistent communication prior to COVID-19 was seen as the biggest success for the partnership in the continuity of care for TB patients during the pandemic. Text messages, phone calls, and faxes were the primary means of communication between the partners. Open lines of communication and sharing information about patients, new protocols for TB, and general TB information was critical to the success of the partnership both before and during the COVID-19 pandemic.

Prior to the COVID-19 pandemic, the partners had provided TB education to local primary care physicians which aided in building a strong relationship for referrals and identification of TB-related symptoms.

Time was the biggest challenge for both nurses as they were the only ones doing the case management of active and LBTI patients while assisting with the COVID-19 response efforts. The preference to conduct the DOTs in person, provide medication directly to the patients, and collect and deliver specimens directly to the lab all added to the daily time commitments for case management.

Language barriers were also a challenge as face-to-face encounters oftentimes started on the phone using the language line (a phone service for non-English speaking patients). Providing treatment and DOTs in the parking lot of the North Shores Clinic required the nurse to start the conversation on the phone,

walk down to the parking lot for the DOT, and then walk back to the clinic to respond to any questions; sometimes this involved several trips back and forth to complete the DOT without using another family member to interpret.

Another challenge experienced was the reduction of TB cases, as physicians were focused on COVID-19 symptoms and were not testing or referring for TB. The North Shores Clinic TB nurse explained that she constantly reminded the physicians in her

clinic to “Think TB, Think Sputum” as the clinic was inundated with possible COVID-19 cases. The concern was that the lack of screening for TB would result in more complex presentations of TB later.

Staff turnover and burnout were identified as challenges in providing continuity of TB care

during the COVID-19 pandemic. North Shores Clinic had a change in the clinic coordinator twice due to COVID-19 related issues. Both nurses expressed feelings of being overwhelmed by the amount of time required for both TB and COVID-19 efforts, but were committed to the task for their TB patients and their families. Both Lynn Board of Health and North Shores reported that TB patients had concerns with taking public transportation to the clinic and coming into the clinic for fear of COVID-19 transmission. Social distancing in the home environment was often difficult because of the overcrowded conditions of the homes. Many of the face-to-face DOTs at the homes were conducted outside on the front or back porch, at a park, or in the confines of the public health nurse’s car. These factors led to some LBTI patients dropping out of treatment.

*“We have a very strong working relationship. The lines of communication are open, which has made us very successful pre-COVID and during COVID.”*

*-Patty Conway, North Shores Pulmonary Clinic*

## LESSONS LEARNED

A major lesson learned was that each TB encounter provided an opportunity to provide education on TB and protocols for staying safe in order to reduce the risk of TB and COVID-19 transmission. The need to be flexible in DOTs and case management was another lesson learned. North Shores Clinic may continue doing parking lot DOTs for stable LBTIs as it was more efficient and reduced the risk for TB patients entering the hospital.

Despite the fact that the Lynn, Massachusetts community has the third highest incidence of TB in the state, physicians did not test for TB as frequently due to the COVID-19 pandemic. Coupled with patient reluctance to go into a clinic or hospital or to take public transportation, the significant reduction in TB cases and referrals was attributed to the focus on COVID-19 symptomology and treatment.

The partners indicated that education for the community, school nurses, and local primary care physicians was critical, and highly recommend the sharing of information and community outreach to any local Health Department and Health Center considering a TB partnership. Additionally, an understanding of each partner's protocols, processes, reporting mechanisms, TB perspectives, and experiences, and communication preferences is important in building a positive working relationship.

A final reflection by both partners was that the COVID-19 pandemic brought to light the importance of public health services in the community. This recognition provided Lynn Board of Health with the funding necessary to hire additional staff to assist with the COVID-19 testing and vaccination and to increase staff in the TB program.



Parents wait to test their children for COVID-19, Lynn, MA

*“My advice is to always open up those lines of communication. Develop a good relationship with all of your Board of Health, so that they feel comfortable calling you, they feel comfortable asking questions of you, and working with you on a daily basis.”*

*-Patty Conway, North Shores Pulmonary Clinic*



## At a Glance

### Facilitators/Drivers

- Consistent open communication and established trust was critical prior and during the COVID-19 response.
- Increase in text messages, phone calls, and faxes to maintain communication about shared clients.

### Barriers/Challenges

- The COVID-19 pandemic magnified existing language barriers and hindered the use of the language line in modified protocols.
- North Shores expressed concern that the lack of timely identification of active TB cases have resulted in more serious cases of TB (e.g. multi-organ TB).
- Patient reluctance to go to a clinic or hospital and/or take public transportation decreased TB screenings.
- North Shores closed in March 2020 resulting in deferred referrals and LTBI patients loss to follow-up.
- Not enough time to address COVID-19, multiple responsibilities, and TB program duties.

### Lessons Learned

- Each TB encounter was an opportunity to provide COVID-19 education.
- Flexibility in DOT and case management activities (e.g. DOT outdoors, LTBI in the parking lot).
- Lynn Board of Health reported the COVID-19 response brought awareness to the role of Public Health in the community and supported an increase in budget to hire another TB nurse.

### Successes

- Understanding of each partner's protocols, processes and reporting mechanisms, TB perspectives, experiences, and communication preferences for building positive working relationships.
- Transition to parking lot DOT, medication issuance, and medical assessments.

### Lessons for Future Partnerships

- Ask big picture questions to look at TB control and prevention activities.
- Share information with partners to establish open lines of communication and to increase confidence in calling and working with each other.
- Ensure everyone is on the same page, including community health partners.



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