

## **Transforming essential services for tuberculosis during the COVID-19 pandemic: lessons from New York City**

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Dear Editor,

In response to the surge in COVID-19 cases in New York City (NYC), the NYC Health Department has transformed the way we deliver tuberculosis (TB) care to patients. On March 20, 2020, a gubernatorial Executive Order was issued to mandate closure of all non-essential services in New York State and require all essential services to implement social distancing. In response, the NYC Health Department implemented an unprecedented policy that only essential staff should report to work in person; all other staff were directed to work remotely. The Health Department has therefore reshaped patient-staff interactions for TB prevention and control, including how we provide direct patient care in our clinics, conduct case management and contact investigation activities, and provide directly observed therapy (DOT).

While the burden of TB in the United States is low, the rate of TB in NYC (6.9 per 100,000 in 2019) is more than double that of the national rate (2.7 per 100,000). To control TB in NYC, the Health Department operates four clinics that provide comprehensive care, including diagnostic and treatment services for both active and latent TB infection (LTBI). Typically, staff interview and educate patients in the hospital or at home, observe patients ingesting medication, conduct patient chart reviews in health care facilities, and test contacts at

home and in non-household settings. We have had to modify the way we conduct these core activities in order to protect our patients and staff from COVID-19.

As part of these adjustments, the Health Department has temporarily closed all but one of its TB clinics. To reduce unnecessary clinic visits and crowding, we implemented real-time video or audio calls between patients and providers (telehealth). To do this, we relied on our experience from a pilot study in November 2019 that used telehealth as an alternative to in-person clinic visits for eligible patients receiving treatment for LTBI. During the COVID-19 epidemic, in-person clinic visits are reserved for the highest priority patients—those with confirmed or probable TB, and newly identified contacts to people with infectious TB. All other visits for TB testing have been deferred.

Patients seen at the clinic receive an initial visit, and if there are no laboratory abnormalities, are given a 2-month supply of medication with an appointment for a telehealth visit with a provider in 4–8 weeks. Telehealth visits are conducted via phone or video conference using software that meets agency privacy standards. With video conferencing, a physical evaluation is conducted through visualization. If no abnormalities are identified during the telehealth visit, the doctor orders additional months of medications that are mailed to the patient. In between telehealth visits, patients may be asked to make an in-person clinic appointment to obtain sputum. Based on our previous clinical experience and typical rates of TB treatment side effects, we anticipate that 5–10% of patients will experience symptoms consistent with hepatotoxicity,<sup>1–3</sup> and will need to have medication and telehealth discontinued until blood can be drawn for analysis via a clinic or home visit. We also anticipate that some patients will not be eligible for telehealth due to a lack of access to or facility with the technology. These situations are carefully reviewed by a medical team, and home visits may be conducted for certain patients. Staff use appropriate personal protective equipment during home visits.

In addition to changes in clinical services, the way we communicate with and provide care to patients in the community has also been modified. Before widespread community transmission of COVID-19 began in NYC, trained Health Department staff traveled to hospitals, where most patients with TB are first diagnosed, to conduct patient interviews and chart reviews. This initial interaction with patients is critical for verifying clinical information, eliciting contacts, and identifying potential barriers to TB care. To minimize staff travel, hospital traffic, and patient-staff direct interaction, all interviews of patients with newly diagnosed TB are now conducted by phone (using an interpreter if needed). Patient clinical information is obtained remotely by extracting data from available hospital electronic medical

records to which staff have access. Home visits to test contacts are not currently being conducted. Instead, contacts are asked to go to their personal health care providers or the TB clinic to be evaluated and tested for TB infection. On-site testing of TB contacts in congregate settings is currently on hold. Home assessments, which are an opportunity to identify additional contacts and identify home environmental conditions that may facilitate TB transmission, are not being done at this time. In addition, all DOT is now being conducted by video, except in a few select cases.

We have made adjustments in our clinical care, case management, and contact investigations in order to decrease the risk of SARS CoV-2 transmission. (Table) Although these measures will reduce the spread of the virus, the downstream impact on our TB patients and the community is unknown. There is concern from doctors and nurses about missing early signs of adverse reactions to medication that can lead to serious complications or even death. We also worry about patients not completing treatment, and that delays in testing contacts could result in these individuals developing active TB. TB transmission may go undetected for prolonged periods. During this time, it is vital that our patients know that their medical issues are important, even during the height of the COVID-19 pandemic, and we are here to provide services. We do not know when we will return to normal operations, but until then we remain vigilant for challenges to service delivery, and monitor the impact of these new processes to search for ways to provide the optimal, patient-centered TB prevention and care possible in these difficult circumstances.

### *References*

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**Table** Status of New York City’s TB services during the COVID-19 pandemic

Essential services	Status during COVID-19 pandemic
<b>Clinical services</b>	
Clinic operations	Closed three of four clinics
Patient prioritization	Clinic appointments are limited to confirmed and probable TB cases newly discharged from the hospital, and recently identified contacts
Clinic appointments	Volume of in-person appointments is reduced. Telemedicine is offered for non-urgent appointments. Home visits are conducted for patients who are unable to travel to the clinic
<b>Case management</b>	
Patient interviews	Interviews are conducted over the phone rather than in-person
Chart reviews	Patient clinical information is obtained from electronic medical records systems, if available, or by calling the infection control nurses.
Home assessments	Suspended
<b>Contact investigation</b>	
TB testing in homes	Suspended. Contacts are asked to go to their private providers for testing or referred to the Health Department clinic
TB testing in congregate settings	Suspended.
DOT	In-person DOT is suspended. Patients are offered DOT through live or recorded video

TB = tuberculosis; DOT = directly observed therapy.