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TECHNICAL BRIEF



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Find Actively, Separate, Treat: The FAST Strategy for Tuberculosis Infection Control in Bangladesh

PROJECT CONTEXT

Bangladesh is one of the world's high tuberculosis (TB) burden countries, and TB is a major public health concern in the country. According to World Health Organization's 2017 Global TB Report, 38% of drug-sensitive and approximately 84% (<4,100) of drug-resistant patients are undiagnosed or unreported. A prevalence survey¹ demonstrated that TB prevalence is higher among the urban population than the rural population in Bangladesh. However, it is estimated that more than 30% of people do not seek care even when they are symptomatic.

The most infectious TB patients are these missing cases. Undiagnosed TB patients often transmit the disease in inpatient wards, infecting health care workers, patient attendants, and other patients. It is critical to

find, diagnose, and effectively treat these TB patients to thwart the transmission of the disease. TB patients may present themselves to the hospital for reasons having nothing to do with TB, and they may not mention cough, fever, or weight loss —symptoms that may or may not be associated with pulmonary TB.

Large hospitals and nongovernmental organization (NGO) clinics in urban Dhaka are a hub for these patients by acting as entry points for both patients and caregivers from a large catchment area. In response to patient volume and health facility capacity, the USAID-funded Challenge TB (CTB) Project in Bangladesh introduced the FAST strategy (Find patients Actively, Separate safely, and Treat effectively) as a TB infection control strategy that prioritizes rapidly diagnosing patients and starting effective treatment.

¹ National Tuberculosis Prevalence Survey Bangladesh 2016.

STRATEGIC APPROACH

The premise of the FAST strategy is that TB treatment can prevent further transmission. Rapidly diagnosing and treating TB patients is the best way to reduce nosocomial infections, especially for health care workers who are at high risk of infection due to routine direct patient care. The FAST strategy is used to diagnose TB or multidrug-resistant TB (MDR-TB) within a variety of health care and congregant

settings and is an infection control strategy with a focused approach for stopping TB transmission.

The FAST strategy (figure 1) encourages hospitals to find TB patients actively through “cough surveillance” in outpatient departments by asking about TB symptoms and identifying patients who are coughing. Sputum must

be promptly tested for TB, ideally with Xpert MTB/RIF. Patients are then separated from the general hospital population while waiting for a laboratory diagnosis to prevent further transmission of TB. Once diagnosed, effective TB treatment is the most important step in preventing transmission of the disease, and patients become noninfectious soon after starting effective treatment.

FIGURE I. The FAST approach



CTB Bangladesh established active screening systems in seven tertiary hospitals and seven NGO clinics in Dhaka city using the FAST strategy.

The project received approval from the National TB Control Program (NTP) and sought necessary buy-in and permission from hospital

authorities to implement FAST, which began in February 2018.

PROJECT IMPLEMENTATION

PRELIMINARY ACTIVITIES

The project conducted an initial meeting with institutional authorities in January 2018 to discuss the TB situation in the country and how implementing the FAST strategy could contribute to national case finding. Upon receiving consent from health facility directors, CTB conducted a preliminary assessment of hospitals and clinics to calculate patient burden and patient flow in medicine outpatient and in-patient departments each day. CTB hired 14 health workers (screeners) for screening, identifying presumptive TB cases among screened patients, and sending them for x-ray (if available) and GeneXpert testing if the x-ray was abnormal. CTB also provided three field supervisors to supervise the screeners and track their

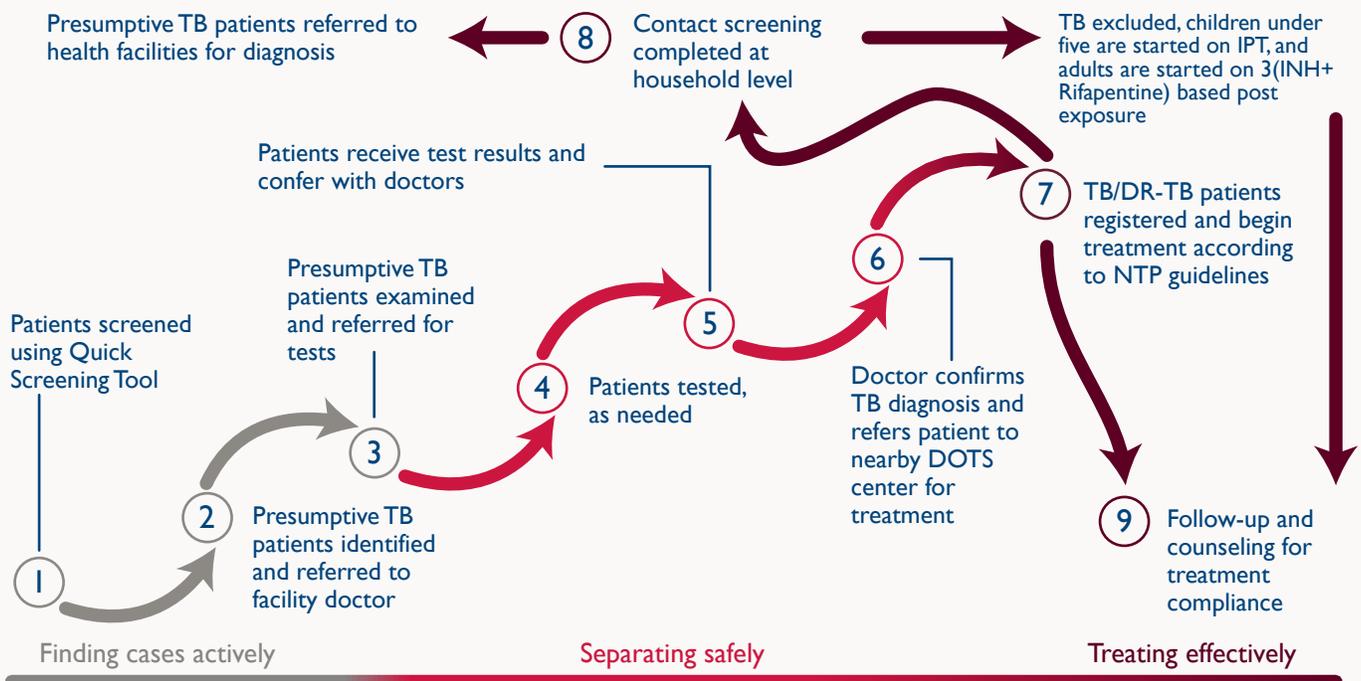
performance and record keeping. Field supervisors also coordinated and liaised with hospital and clinic authorities and reported to the project regularly. All 17 workers (14 screeners and 3 supervisors) were oriented for effective implementation of the FAST strategy. Between 15 and 20 doctors at each facility were also oriented on the FAST strategy and ways they could support the initiative.

CORE INTERVENTIONS

- Screeners screen general patients presenting at in and outpatient departments and NGO clinics using paper-based quick screening tools. Based on the screening criteria, they identify presumptive TB cases and refer them for further clinical evaluation and subsequent diagnostics.

- Presumptive patients are referred for diagnostic investigation according to the NTP algorithm (x-ray, acid fast bacilli (AFB) microscopy, GeneXpert, and any other tests advised by physicians). After clinical examination, presumptive patients are sent for a test to identify TB.
- The patient shares the test report with the doctor the next day. The doctor confirms the TB or drug-resistant TB (DR-TB) diagnosis based on the report and refers the patient to the nearest directly observed treatment-short course (DOTS) center/DR-TB treatment initiation center. Health workers at those facilities ensure initiation of treatment and follow-up on treatment progress.

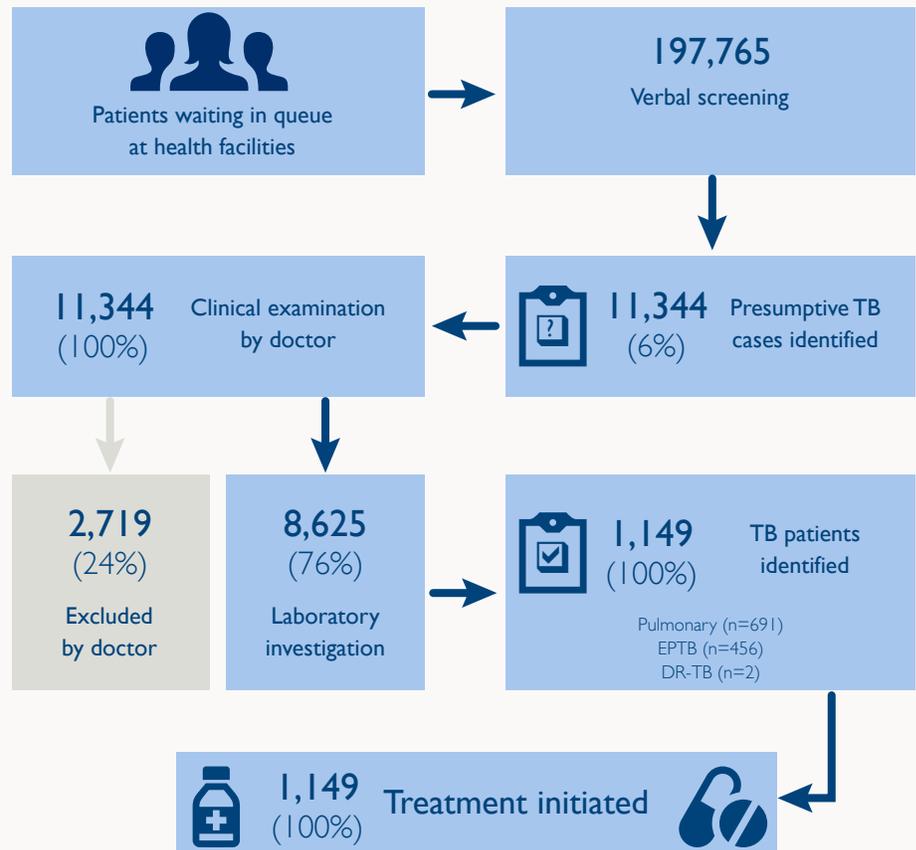
FIGURE 2. Steps in the FAST strategy



RESULTS AND ACHIEVEMENTS

From February to June 2018, 197,765 (76%) general patients were screened at outpatient departments at the 14 facilities, including seven tertiary care hospitals and seven NGO clinics. Among those screened, 11,344 (6%) presumptive TB cases were identified and sent for further evaluation. Of these presumptive cases, 8,625 (76%) went for further TB laboratory investigations (e.g., Xpert, x-ray, AFB, fine-needle aspiration cytology/biopsy), and 1,149 (13%) TB patients were identified, which is a positivity rate of 581/100,000 or close to 2.6 times the general population incidence. Of these 1,149 cases, 471 (41%) were pulmonary positive, 220 (19%) were pulmonary negative, 456 (40%) were extra pulmonary TB, and 2 (0.2%) were DR-TB. Treatment of all identified drug-sensitive and DR-TB patients is ensured through DOTS centers following NTP guidelines.

FIGURE 3. Data flow for FAST



LESSONS LEARNED

- The yield of TB using the FAST strategy is 2.6 times higher than the general population incidence estimate for the country.
- The FAST strategy is an active finding approach that promotes the idea that early detection and quicker initiation of TB treatment is an effective way to prevent TB transmission.
- In many health facilities in Bangladesh, proper ventilation and cough surveillance is often absent.
- Rapidly diagnosing and treating TB patients is the best way to reduce nosocomial infections, especially for health care seekers who share the same room or same floor within a health facility.
- An active and comprehensive diagnostic mechanism is essential to diagnose missing TB cases. The FAST approach can be used to diagnose additional TB and DR-TB cases in a variety of health care and congregate settings.

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THE WAY FORWARD

Strengthen screening process and sustainability issues:

- Hospital authorities and staff can be engaged by building the capacity of doctors and nurses.
- Appropriate referral mechanisms should be established, and the existing intuitional capacity for early diagnosis and treatment should be utilized.

Establish triage for TB infection prevention and control:

- Active TB patients need quick diagnosis and treatment to prevent transmission of infection.
- From an infection prevention and control point of view, TB patients deserve priority for quick investigation and treatment. To achieve this, hospital management should take administrative action for the quick delivery of TB services at the facility. When needed, patients will be referred to the nearest center for x-ray and GeneXpert testing at no cost.

Promotion and branding of the TB program at the facility:

- The point of care for TB will display all essential TB-related materials.
- The FAST strategy will be one of the key implementation approaches for the Strategic Roadmap for Zero TB Cities Bangladesh and a major building block of the CHAKRA—a holistic approach to TB care where “Search, Treat, Prevent” has been conceptualized as stages along a patient pathway.

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