# A PROCESS DOCUMENTATION ON IMPROVING TB DIAGNOSTIC SERVICES IN HARD-TO-REACH AREAS OF WEST BENGAL









# THALI

# TUBERCULOSIS HEALTH ACTION LEARNING INITIATIVE (THALI)

Period: February- September 2019









### BACKGROUND

As per the Global TB report 2018, the estimated incidence of TB in India was approximately 27,00,000, <sup>1</sup>accounting for about a quarter of the world's TB cases. India leads in cases of Multi Drug Resistant TB (MDR-TB), accounting for 24 percent of the world's MDR-TB cases globally.<sup>2</sup> India also has more than a million "missing" cases every year that are not notified and most remain either undiagnosed or unaccountably and inadequately diagnosed and treated within the private sector.

In hard-to-reach areas of districts a significant proportion of patients are not tested for TB because the Designated Microscopy Center (DMC) is located at a distance from the communities and in the absence of dedicated sputum transportation mechanism at the primary care level the presumptive patients are required to travel to the DMC for submitting their sputum samples. Presumptive TB patients belonging to remotely located Primary Health Centers (PHCs) would always face a challenge in accessing the existing inadequate public transport system. Hence having a dedicated Sputum collection and transportation mechanism at these hard-to-reach PHC is pre requisite for TB treatment and control.

The Tuberculosis Health Action Learning Initiative (THALI) is a four-year project (2016-2020), funded by the United States Agency for International Development (USAID) and implemented by a consortium of partners: World Health Partners (WHP), Child in Need Institute (CINI) and John Snow India (JSI). THALI aims to improve TB prevention and control amongst key affected populations across six districts of West Bengal viz. North 24 Parganas, Hooghly, Howrah, East Medinipur, South 24 Parganas and Kolkata.

### **INTERVENTION AREA**

In line with India's Revised National Tuberculosis Control Programme (RNTCP), THALI worked with the government to design and implement a three-pronged approach to increase diagnostic services at 13 remote sub- centers in West Bengal. The three prongs are: training health providers; increasing sputum collection during facility and home visits, and improving sample transport, patient referral and monitoring related to microbiological testing and chest X-ray services. The 13 sub-centers targeted included nine sub-centres in Moyna block of East Medinipur, and four sub-centers in Swarupnagar block of Basirhat.

THALI worked with the government of West Bengal to determine parameters to identify hard-to-reach sub-centers. These are:

- THALI's parameters for hard-to-reach sub-centers include:
- Located in areas having little or no formal public transportation system.
- Situated 8-10 km or more from the nearest Dedicated Microscopy Center (DMC).
- Absence of dedicated RNTCP staff for sputum collection and transportation.
- Conforming to above parametric conditions and serving a population of minimum 5000 people.

### Block I: MOYNA

TB case notification in East Medinipur has been amongst the lowest in the state for several years. In 2018, 1,778 (on an average 34 TB Patients per lakh) TB patients were notified within East Medinipur compared to West Bengal's average of 120 patients' per lakh. The district has remote hard-to-reach areas in a number of blocks with challenges of sputum collection and transportation from presumptive TB cases. As per the 2011 Census of India, Moyna Block had a total population of 2,26,927. RNTCP has classified Moyna as a block for low TB case notification, with only 71 cases notified in 2018. Moyna has a Block Primary Health Center (BPHC) at Garh Moyna and two Primary Health Centers (PHC) at Ramchandrapur and Arangkirana. There are two DMCs, located at Moyna BPHC and Arangkirana PHC, and 35 Health sub-centers.



9 hard-to-reach sub centers of Moyna Block

<sup>&</sup>lt;sup>1</sup> https://www.who.int/tb/publications/global\_report/en/ <sup>2</sup> India Leads the World in Tb Burden

Jointly with the East Medinipur District TB Officer (DTO) and the Moyna Block Medical Officer Health (BMOH), THALI identified nine hard-to-reach sub-centers.

### Block 2: SWARUPNAGAR BLOCK, BASIRHAT

As per 2011 Census of India, Basirhat I Block had a total population of **256,075** and consists of remote and hard-to-reach areas. The RNTCP has deemed this district a high TB burden zone and identified the need to enhance TB care and treatment services. Swarupnagar block under Basirhat health district comprises of remote far flung areas, which poses a challenge for TB screening.

Through a formal request placed by the DTO, THALI deputed a dedicated sputum collector and transporter to cover four sub-centres. These sub-centres were chosen primarily due to their proximity to the border, scant public transportation, and distance from DMC, being >20 kilometres away from the sub-centre. To strengthen TB diagnosis and treatment, all presumptive TB cases testing negative during sputum microscopy are referred for X-ray screening by THALI- supported providers to a private laboratory accredited by Atomic Energy Regulation Board (AERB).



### **KEY PROCESS**

To increase presumptive case detection in hard-to-reach areas and bridge the gaps in the TB diagnostic pathway, THALI has followed three key access points:

- 1. Raising awareness and sensitizing government frontline workers (Accredited Social Health Activist- ASHA)
- 2. Increasing sputum collection during facility and home visits of presumptive TB cases with support from ASHA.
- 3. Facilitating TB diagnosis through X-Ray and microbiological tests, including Cartridge-based Nucleic Acid Amplification
- Test (CBNAAT).

### Access Point 1: Raising awareness and sensitizing government frontline workers (ASHAs)

THALI conducted sensitization programmes in Moyna and Swarupnagar Blocks, with a total of 228 ASHA workers participating (188 in Moyna, and 40 in Swarupnagar). Through these programmes, ASHA workers were sensitized on methods of identifying presumptive TB cases through verbal screening and referring them to the sub-centers/PHCs. These programmes followed a participatory methodology and focussed on key issues including TB signs and symptoms. The immediate outcome suggested an increase in knowledge levels from an average score of 31% before the programme, to an average of 75% at the end of the programme.



Sensitization training being conducted for ASHA workers in Basirhat

## Access Point 2: Increasing sputum collection during facility and home visits of presumptive TB cases supported by ASHA

The barriers to accessing diagnostic services were reduced by introducing sputum collection and transportation facilities within the remote communities. THALI deployed one dedicated sputum collector cum transporter in each block, who were oriented on RNTCP including sputum collection and transportation guidelines.

The primary responsibility of the sputum collector cum transporter is to collect sputum samples from presumptive TB cases identified



Sputum collection at the subcenter

Sputum collection at home

by ASHA. In the event of a patient being unable to visit the sub-center, this person is able to collect sputum samples from the patient's residence and transport the samples to the nearest diagnostic site, thus lowering the out of pocket costs for patients and facilitating early case detection.

### Access Point 3: Facilitating TB diagnosis through X-Ray and microbiological tests, including CBNAAT

Once the sputum samples (both spot and early morning sample) are collected, the sputum collector transports them to the DMC on the same day since hard-to-reach sub-centers lack the cold chain facility for storage and transportation. THALI equipped the transporters with specially-made thermocol ice boxes to ensure that sputum samples are stored safely. A request form (Form 15 A) signed by the patients is carried along with the sputum samples.

In case of presumptive cases testing negative during sputum microscopy, they are referred for X-ray screening by the THALI appointed sputum collector and transporter. Since



Transportation of sputum samples to assigned DMC

Handing over sputum samples to the assigned DMC

Swarupnagar block under Basirhat Health district is a high TB burden block and has inadequate X-ray screening facility, THALI links all presumptive TB cases to a private X-ray facility, and covers the costs for the X-ray screening.

THALI's sputum collector cum transporter compiles a detailed report on the outcome of sputum samples collected for the month, and shares this with the Senior Treatment Supervisor (STS) of the block within the first week of the following month for review and further public health action.

### **Responsibility of THALI Responsibility of Government System** Identification of hard- to- reach Sensitization of government areas in cosultation with district-(Microscopy), CBNAAT frontline workers (ASHA) level RNTCP staff X-ray screening faciliaties for all Collection of sputum samples from subcases testing negtive during centers/ homes of presumptive TB cases sputum micrscopy in Moyna In Basirhat, X-ray screening Entry into Nikshay Projan facility for all cases testing portal & initiation of TB negative during sputum treatment microscopy. Treatment adherence & Monitoring of sputum Documentation of collected completion collection sputum for the month

### FLOW CHART ON SPUTUM COLLECTION AND TRANSPORTATION IN HARD-TO-REACH AREAS

Note: Procedure for collection and transportation of sputum outlined above must be read in conjunction with TOG of RNTCP, 2016 and Air borne infection control (AIC) guidelines, 2010, as issued by Ministry of Health and Family Welfare, Government of India and SOP of Sputum Transportation prepared by THALI.

.....

### **KEY SUCCESSES**

Through this initiative, THALI has significantly improved access to TB diagnostic services in hard-to-reach areas. THALI-supported sputum collection and transportation in Moyna resulted in 1395 presumptive TB cases availing diagnostic services, resulting in four confirmed TB patients (Fig 1). A trend analysis of sputum samples collected by the RNTCP in Moyna suggests a 42% increase in sputum collection during the period March-August 2019 vis-à-vis the preceding six months (Figure 2). THALI's efforts to sensitize health workers and increase sputum collection services made important contributions to this increase. In case of Swarupnagar, sputum collection and transportation, together with X-ray screening was initiated in July 2019 which has resulted in 157 presumptive TB cases availing diagnostic services, resulting in two confirmed TB patients (1.27%).



### The major findings have been enumerated below:

#### (Ref: RNTCP Data)



"In Basirhat one could say that local people are more aware of getting themselves tested, especially when they suffer from prolonged cough. In most cases, patients take over-the-counter medication for a few days, but when these don't work, they consult with private practitioners, who finally refer them to the sub centers. The deployment of the sputum collector and transporter by THALI has helped in increased utilization of TB diagnostic services. The initiative could gain greater momentum through sensitization and active involvement of Local Self Government representatives/Panchayats in combating the disease."

Dr. Saurav Acharya, Block Medical Officer Heath. (BMOH), Swaraupnagar Block, Char Ghat PHC

### **Patients-Speak!**

Swapan Kumar Mondal is a 62-year-old resident of Kabilpur village in Swarupnagar block under Basirhat health district. He was referred to Kulkuh subcenter in July 2019 for TB screening. Initial sputum samples collected at the subcenter tested negative, and Swapan was referred to the THALI-identified X-ray laboratory for X-ray screening by THALI's sputum collector. Since the X-ray report was TB suggestive, sputum was collected again, and sent for CBNAAT, which confirmed he had TB, and treatment was initiated. While reflecting on the need for treatment adherence and some lifestyle changes, a smiling Swapan states "I have been taking my medication regularly, and eat protein rich food including eggs and fish. I have been told to stop smoking bidi (unprocessed tobacco) which I am slowly but surely trying to give up. I have submitted all necessary papers to receive DBT benefits." Though family members are aware of Swapan having TB and do take care of him, he is apprehensive about sharing this information with his neighbours, in the fear of being stigmatized. There continues to be greater scope of providing Swapan with psycho-social supports including counselling, as a way of healing completely.



Swapan Kumar Mondal at Choto Bankra sub- center

### SIGNIFICANT LEARNINGS

- Deployment of sputum collector cum transporter in hard-to-reach areas can positively impact the quantum of sputum collection and minimize delay in diagnostic pathway.
- Sensitization of front line workers like ASHA is an important component of efforts to increase sputum collection and other diagnostic services in hard-to-reach areas.
- Implementation of National Guidelines in the form of upfront X-ray screening and sputum microscopy in hard-to-reach areas requires additional efforts and collaboration to ensure that patients can access services.
- Information dissemination on key learnings would help the RNTCP to design, deliver and review its strategies for more
  effective TB control in hard-to-reach areas.

Names have been changed to protect identity of TB survivors; however, place names remain the same. Photographs have been collected based on participant consent and credited to THALI. Information reported has been transcribed by THALI representatives.

**Disclaimer:** This document is made possible by the generous support of the American People through the United States Agency for International Development (USAID). The contents are the sole responsibility of THALI project and do not necessarily reflect the views of USAID or United States Government. For additional information please contact: World Health Partners- <u>info@whpindia.org;</u> Child In Need Institute (CINI)-<u>cini@cinindia.org;</u> John Snow India (JSI)- <u>http://jsinfo@jsi.com</u>