

# Reaching the last mile



## EQUIP

Enhanced Use of **Q**uality Drugs and **U**tilization of Innovative diagnostics for TB Management in the **P**rivate Sector

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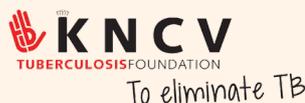
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## Report on Project **EQUIP**

Enhanced Use of **Q**uality Drugs and **U**tilization of  
Innovative diagnostics for TB Management in the  
**P**rivate Sector

Project implemented by REACH  
(April 2015 to December 2017)



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# Acknowledgements

REACH thanks all members of the Technical Advisory Group who provided technical assistance and steered Project EQUIP towards a successful implementation at the field level.

REACH would like to acknowledge the valuable support and contributions of all the private practitioners of Chennai city who participated in Project EQUIP by utilizing the services of Project EQUIP for their TB patients.

A special thanks to all the private practitioners who set up an EQUIP centre within their private hospitals, thus making it possible for us to reach out to more number of symptomatic and patients.

REACH would like to thank The Hindu Group who have provided us laboratory support towards ensuring access to quality testing by CB-NAAT for the private sector. A special thanks to the teams engaged in processing and testing of the samples.

REACH would also like to thank all our community volunteers who work with dedication for supporting TB patients.

REACH would also like to thank the constant support received from the DDG, Central TB Division, State TB Officer, Corporation Commissioner, Chennai and the District TB officer in the implementation of Project EQUIP.

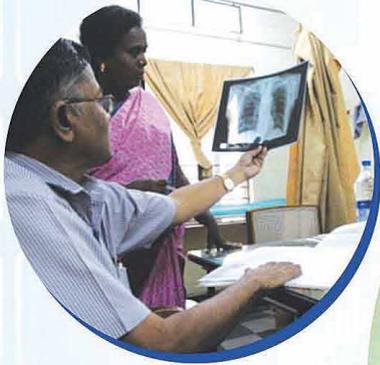
Finally, we would like to thank our donors for their wholehearted support with funds and technical advice for making Project EQUIP a success.

# Table of Contents

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<b>Preface</b>	<i>page 5</i>
<b>One busy day</b>	<i>page 7</i>
<b>TB – preventable, curable and yet</b>	<i>page 9</i>
<b>Evolving to EQUIP</b>	<i>page 13</i>
<b>Seeing the results</b>	<i>page 22</i>
<b>Collation of findings from FGDs and interviews</b>	<i>page 26</i>
<b>Going towards sustainability and scale</b>	<i>page 31</i>
<b>Replicating the EQUIP Model</b>	<i>page 33</i>
<b>The partners</b>	<i>page 37</i>

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# PROJECT - EQUIP

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Innovative diagnostics for TB management in **P**rivate Sector.



# Preface



Greetings from REACH !

It is with pride I state that Chennai is among very few cities in India which have stated their commitment to becoming TB free. The Corporation of Chennai CoC has launched this initiative in mission mode to engage all stakeholders in Ending TB in the city. REACH is a proud partner in this important initiative which has the highest level of political and administrative commitment for addressing this critical public health challenge. This declaration is backed by an inclusive and well-designed strategic approach adopted by the Corporation of Chennai and the Department of Health, Government of Tamilnadu, partnering with committed agencies as well as private providers to tackle the challenges that accompany TB Care and Prevention such as access, treatment standards and adherence.

REACH has walked with CoC through this important journey and is committed to achieving the ambitious goals of TB free Chennai. In light of the above context, this publication is an important milestone for REACH. It records the successes and challenges associated with engaging the private healthcare sector in TB Care and Prevention. Recognizing the important role played by the various stakeholders, particularly private healthcare providers, REACH has worked to involve them actively in all TB Care and Prevention efforts through Project EQUIP, and its public-private mix (PPM) intervention before that through a participatory approach.

To say too much in this note would be to take the reader away from the story, which is recounted in the following pages. I would however like to acknowledge people and entities that have made it possible for us to dream big.

CoC, by giving us the status of partner made it easier for us to approach the entire TB sector with the enhanced confidence that we had the support of the Government. For this we record our gratitude. Our funders, the Lilly Foundation, provided the vital financial support which made it possible for us to translate concepts into reality on the ground. We acknowledge their support with thanks. We thank Netty Kamp of KNCV, the EQUIP Technical Advisory Group, Dr M.S Jawahar Technical Advisor to the project and Dr Lavanya Program Officer RNTCP for their continuous inputs and advice that helped us course correct to deliver the highest standards of implementation. The most important stakeholders for us through this entire journey were undoubtedly the private practitioners and hospital owners. They gave us their time; their willingness to work with us to provide the best for their patients was the key to this successful outcomes of the project. For this, we thank them.

I would like to personally acknowledge the dedication of the REACH team whose hard work, care and support with a “patient first” approach which is the essential fabric of REACH since its inception and I am proud of the leadership provided by Dr Ramya Ananthkrishnan, Executive Director, REACH, Dr Radha Rangaswamy, Project Director, EQUIP and Mrs Sheela Augustine, Deputy Program Director, REACH.

At the very foundation of our work is our conviction that society exists for the good. We have found through experience that for every forward positive step we take, society responds by walking with us. Project EQUIP endorsed this belief in full measure. The story is told in the document that follows. Read on and we look forward to your responses and comments. Let us together march on to achieve the goals of a TB free Chennai and prevent avoidable illness and death.

**Dr. Nalini Krishnan**  
Director, REACH



# One busy day...

The EQUIP Centre in a busy locality of Chennai the capital city of Tamil Nadu in southern India is bustling with activity on a sunny winter's day. It is a part of Project EQUIP<sup>1</sup> being implemented by Resource Group for Education and Advocacy for Community Health (REACH), a non-governmental organisation (NGO) headquartered in Chennai. Tuberculosis (TB) patients come here to access the various services offered by the centre.

At one end of the room, seated at a big table, a young woman who has come to the centre for the first time is getting her patient identification card filled. She has been referred to the EQUIP centre by a private practitioner for tests to confirm TB. After filling up the card, the field officer at the centre counsels her about the next steps. She is now assured that she will get support for diagnosis, treatment and any other services she requires. She will now have to visit only one place for all the services associated with her treatment and cure. If required, she can request for home visits from the staff at the centre – and everything would be free of cost.

At the other end are several people who are already on treatment and have come to pick up their monthly quota of medication. Some of them also have doubts about the treatment regimen while others have come in just to chat with the EQUIP staff. One of them, whose young daughter is on treatment for spinal TB remarks, “My daughter has been on treatment for several months. I have nursed her through her phase of acute pain and debilitating symptoms. As a caregiver, the stress on me is enormous. When I feel especially hopeless, I come here and draw strength by sharing my concerns with staff and the others here. I also chat with other caregivers and patients. We rely on each other for emotional support.”

Saroja (name changed) has been married for four years and has just completed treatment for lymph node Tuberculosis. Her treatment consisted

of surgery as well as medication for several months. While she has been cured of TB, she is emotionally devastated owing to the stigma she had to face while she was ill. Her mother who has accompanied Saroja to the EQUIP centre says, “Her mother-in-law called me soon after my daughter's illness was diagnosed and sent her home with me. Her husband did not once visit or enquire about her while she was being treated.” She weeps while recounting her daughter's story but also shares that Saroja's husband and mother-in-law are being counselled by the doctor and the EQUIP staff and hopes that Saroja can soon join her husband.

## EQUIP Centres – spaces that offer hope

EQUIP centres function as spaces where private practitioners can refer their patients for a range of services i.e. free, quality diagnosis, quality-assured TB drugs for daily regimen, counselling services, contact screening for TB, regular follow-ups to ensure treatment adherence, and nutritional support. While they are mostly situated within a hospital or healthcare setting, occasionally they are housed in the premises offered by socially conscious organisations.

Over time, EQUIP centres have become spaces that patients and families visit for more than just services – they have come to rely on these centres for comfort, counselling and hope owing to the non-intimidating patient-friendly atmosphere and one-stop solutions they offer for testing, treatment, counselling and other requirements of persons diagnosed with TB. However, EQUIP Centres are but a part of the larger Project EQUIP, which has been designed to holistically address TB care and prevention more effectively in the private healthcare sector, with special focus on drug-resistant TB (DR-TB).

## About Project EQUIP

Project EQUIP is initiated as a partnership between REACH, Chennai Corporation and KNCV Tuberculosis Foundation, a Netherlands-based organisation. Building on the learnings of the earlier REACH Public-Private Mix (PPM) Project, it seeks to demonstrate that the private sector in India can play a vital role for a TB free India.

<sup>1</sup> Enhanced Use of Quality Drugs and Utilization of Innovative diagnostics for TB Management in the Private Sector



The PPM Project has been at the core of REACH's work and has focussed on bridging gaps between private practitioners, patients and healthcare services. Project EQUIP has based its activities on the successes of the earlier PPM project; however, learning from its experiences on the ground, and from the felt needs of the private providers and communities, the project has also further innovated to strengthen the project implementation.

All efforts have been directed towards increasing the involvement of the private practitioners and hospitals in the operational areas (South and Central Chennai). The project has worked with the priorities of the private healthcare sector and more importantly the patients, rather than pushing the 'one size fits all approach'. While doing so, the conscious focus has been to

encourage the private healthcare sector to adopt and adapt from the public sector where possible in order to standardize TB care.

To fully understand and appreciate the need for EQUIP centres, as well as demonstrate the value of Project EQUIP, it is important to step back and understand the TB situation in India. It is vital to comprehend the complexities that hamper effective TB control. There are several efforts ongoing to address the situation but there is a need to juxtapose all efforts against the scale of the problem in India. The growing numbers of TB, both drug-sensitive and drug-resistant (DR) forms, warrant urgent action to address the root causes, of which inadequate public and private coordination is an important one. A glance at the scale and numbers...



Col. Dr. R. Rajamahendran interacting

# TB – preventable, curable and yet...

India is a country poised for growth, international recognition and prime economic status. The population of India, among the highest in the world after countries such as China, are often counted as its demographic dividend. The truth however is that given the situation with TB, which is rendering the young and productive age groups ill and unproductive, the population is fast becoming a demographic drag. Rampant TB in the population also points to the lack of good public health conditions – a vital factor for effective TB control. The lack of standardised care and lack of accurate data both with regard to drug-sensitive and drug-resistant TB are rapidly becoming priorities for urgent attention.

The case of Murli (name changed) demonstrates the challenges that hamper effective TB care and prevention in India. Murli has a long medical history behind him. Diagnosed with TB in the public sector, he gave up treatment when he began to feel better and did not go back to the doctor who had been treating him. This meant he was a ‘lost to follow-up’ case.

When he began to cough again a few months after giving up medication, and also began losing weight and getting intermittent fevers, he visited two doctors, one of whom confirmed that he had a relapse and needed another course of TB treatment which Murli did not begin. Currently the situation is not too good for Murli. He continues to have severe cough, does not know whether he will now have drug-resistant TB (DR-TB), and is thinking of going to yet another doctor, convinced he can get better without prolonged treatment.

Murli is a young father of two children. His 12-year old daughter has just been cured of TB,

which she contracted from her father. She was identified by a private practitioner engaged with EQUIP and referred to EQUIP centre at Sir Ivan Stedeford Hospital, Ambathur, Chennai, for diagnosis and treatment support.

While Murli consults many doctors in search of a cure, the rest of his family, including his daughter who has just been cured, are vulnerable because they can be infected by him. Murli is being motivated by the EQUIP centre staff to enrol and complete his treatment, which has been prescribed for him. If he does this, the centre can bring relief to yet another patient and craft yet another success story. “I have seen my daughter getting cured, and the kind of support she got from the staff at this centre. This motivates me to come here and avail the same services,” he says smiling shyly.

## The numbers are worrying

India has the largest burden of tuberculosis (TB) and drug-resistant tuberculosis (DR-TB) in the world. An estimated 2.79 million people become ill with TB every year in India with an estimated incidence of 84,000 DR-TB cases annually among the 1.9 million notified TB cases.

Responsibility for TB care and prevention in India rests with the Revised National TB Control Programme (RNTCP), which is a part of the public healthcare sector. Implemented in 1997 based on the WHO recommended strategy of Directly Observed Treatment Short Course (DOTS), the programme has detailed guidelines for Programme Management, Programmatic Management of Drug Resistant Tuberculosis (PMDT), TB-HIV, Paediatric TB, Supervision and Monitoring, and Public Private Mix (PPM) etc. Free, quality-assured TB diagnosis and treatment are available to all patients who seek care in the public sector, across all of India. RNTCP is acknowledged for its impact and has achieved good results in the last decade.<sup>2</sup>

In the recent years, RNTCP, and the Government of India have also initiated several additional measures to address the gaps in the programme. This has been in the form of increased budgets, banning of inaccurate antibody-based serological tests for TB, a national order for mandatory

<sup>2</sup> Link to RNTCP

notification of all TB cases, and initiation of Nikshay, a web-based case notification and tracking system. Recognizing that the private sector can have a big impact in promoting efficient TB control in India, the government is considering a simple National Standard Mechanism for universal access to quality-assured, free anti-TB drugs to all patients in the country, including those being treated in the private sector. This can also lead to substantially greater engagement of the private sector, which manages nearly half of all TB cases.

## The challenges in TB care and prevention

Despite the scale and services of RNTCP, tackling TB in India is a monumental and complex task. That the numbers are formidable is problematic; adding to this is the landscape of the healthcare sector in India, which is unwieldy, dispersed and mostly unregulated. In addition to the public healthcare sector, India has a large, diverse, and poorly coordinated private health sector. This includes corporate hospitals, private clinics, licensed medical practitioners, traditional healers, and practitioners of alternate systems such as qualified AYUSH doctors and others. Quacks further aggravate the situation.

### *Private healthcare sector – the first choice for a majority*

There is data to indicate that more than 60% of TB patients first seek care in the private sector. Quoting a study from The Lancet, India Today reported in 2016, “...The private sector in India treats an estimated 2.2 million TB cases, the study said, based on data from the sale of drugs containing rifampicin, the main anti-TB drug. The study further said that the cases in the private sector could be anything between 1.19 and 5.24 million cases in 2014. Tuberculosis is a treatable air-borne disease, but TB treatment reaches only 59 per cent of the estimated TB patients in India, the report said...”<sup>3</sup>

The undesirable situation that arises out of this is that private sector patients may remain uncounseled in the TB notification system; may experience

delays in diagnosis through use of inappropriate, outdated diagnostic methods; may receive insufficient or inappropriate treatment that can lead to drug resistance and other serious health consequences; and may not receive the treatment support that patients in the public sector receive to successfully complete long regimens.

Dr Soumya Swaminathan, Deputy Director General of Programmes (DDP) at the World Health Organization has observed in The Hindu about TB in India, “...detachment between the public and private sector is unproductive and fuels further spread of TB. Patients regularly float from one sector to the other, expending their resources and becoming more and more ill. There is also increasing evidence of a rise in the rates of drug-resistant TB – an indication that all is not well with the management of TB patients in the community.

Private providers have poor compliance with the Revised National TB Control Programme’s (RNTCP) patient management strategies, with errors in diagnostics, drugs dosage and duration. Additionally, treatment adherence is a major issue – patients often stop their treatment or take medication in an irregular manner due to high costs or lack of monitoring. There is disturbing documentation on the use of inappropriate

### At a glance – some numbers

- ⌘ The private health sector in India accounts for three quarters of India’s health expenditure
- ⌘ Private practitioners (PPs) treat a substantial number of TB patients
- ⌘ About 88% of rural and 85% of urban patients with TB first approach a PP
- ⌘ A household survey in India showed that 60% of individuals with a long-standing cough first went to a PP.
- ⌘ A recent survey in Tamil Nadu showed that the first point of contact was a private non-governmental institution for 53% of sputum-positive patients.

<sup>3</sup> <https://www.indiatoday.in/india/story/india-tb-tuberculosis-deaths-double-2-2-lakh-to-4-8-lakh-348915-2016-10-27>



tests and prescriptions by both qualified and unqualified medical providers, leading to rising patient costs and incorrect diagnosis...”<sup>4</sup>

It is evident from the section above that active public-private partnerships are the need of the hour. It is also evident that the gaps between the patients and the healthcare system are wide, and need to be pro-actively bridged. Dr O. R. Krishnarajashankar, Consultant Chest Physician, Chennai, and active Technical Advisory Group (TAG) member says, “It is not as if TB patients do not want to get well. The problem lies in the fact that diagnosis, treatment and recovery take a minimum of six months. Additionally, a patient has to go through several processes before s/he can complete treatment. All this involves time and costs that many of them cannot afford as they often work at daily wage jobs.” He continues, “When they feel better they just slip out of treatment, thereby risking re-infection. It is very difficult for an over-burdened healthcare system, be it public or private, to track them and bring them back to complete their treatment. They need handholding support, a task which is often provided by social work organizations such as REACH.”

<sup>4</sup> <http://www.thehindu.com/opinion/open-page/engaging-the-private-sector-in-tb-control/article5820015.ece>

### Building on earlier successes

Project EQUIP has been modelled on the earlier REACH PPM model. REACH had been implementing a basic PPM model in Chennai since 1999. Excerpts from a paper published in The International Journal of Tuberculosis and Lung Disease are below:

The REACH PPM was set up as an informal non-profit collaboration initiated by REACH and the Corporation of Chennai. The Tuberculosis Research Centre (TRC) Chennai, an institute of the Indian Council of Medical Research (ICMR), provided technical support. The objectives of the PPM model were to increase patient access to RNTCP services by involving private health care providers and to devise innovative methods to overcome barriers to successful PPM. This model was outside the RNTCP-evolved schemes for PPs and NGOs.

### Role of different partners in the PPM model

REACH implemented the PPM with support from the Corporation of Chennai and the TRC. Advocacy and training of PPs was carried out by REACH. Technical input was obtained from the TRC for developing training and advocacy material. REACH developed tools for the survey and trained the investigators with assistance from the TRC, which also provided support for all

data management. The Corporation of Chennai provided logistics support for the PPM, which included treatment cards, laboratory supplies, registers and patient-wise drug boxes to the PPs through REACH. All patients registered through the PPM were recorded in the RNTCP TB register.

### PPM centres

REACH identified private hospitals/clinics to function as PPM centres to facilitate participation of the PPs. The doctor in-charge and the laboratory technician in these centres were trained in RNTCP protocol. Laboratory technicians underwent a 5-day training programme in sputum microscopy offered by the TRC. Following the training these centres offered diagnostic and treatment facilities for TB patients identified in the private sector. REACH assisted the PPM centres by obtaining patient-wise drug boxes and TB registers from the Chennai Corporation for use in these centres. REACH also identified and trained community volunteers in directly observed treatment (DOT) and provided support for defaulter retrieval and documentation. Together

with the RNTCP staff, REACH undertook the monitoring and evaluation of the process to ensure accountability.

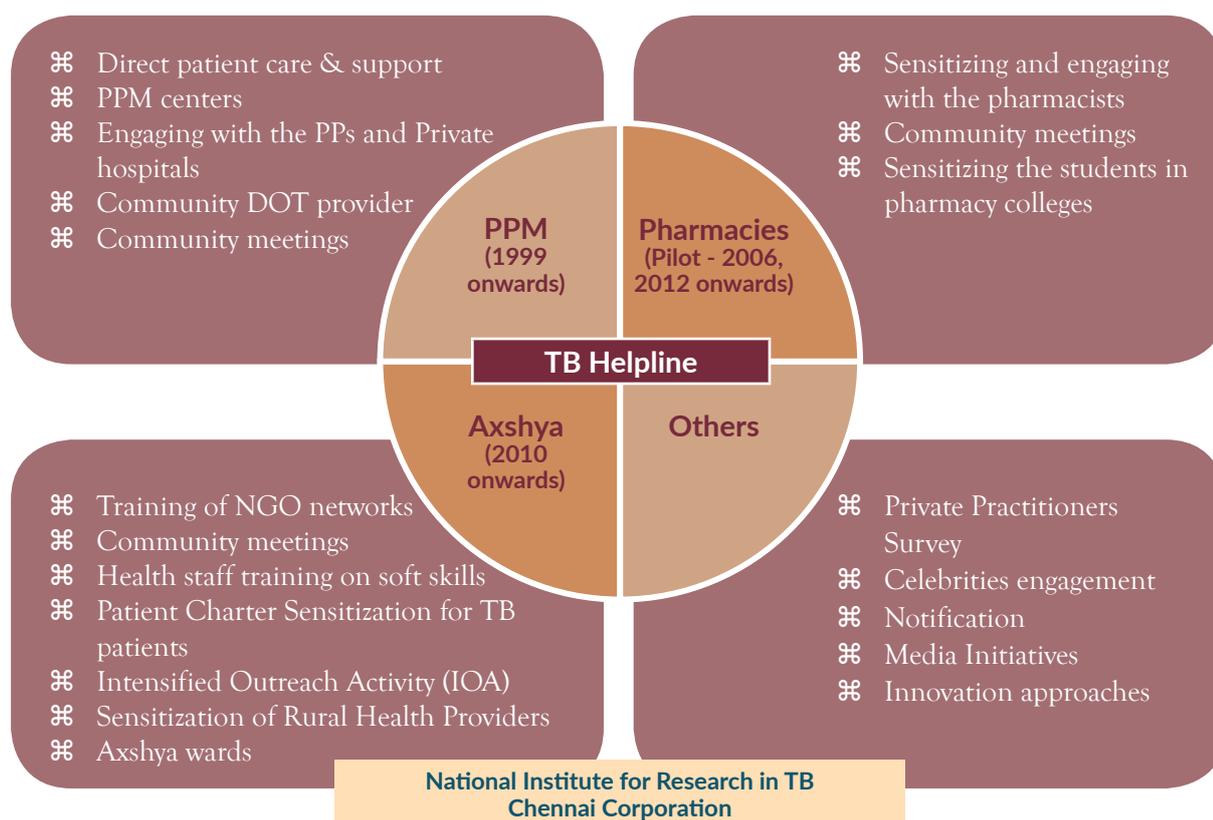
### Adopting DOTS

PPs that were willing to adopt DOTS according to standard RNTCP guidelines were offered various options for participating in the programme: PPs could diagnose and treat patients in their own clinics following RNTCP guidelines or they could refer patients to government/PPM centres for diagnosis and/or treatment under the DOTS strategy.

Read the full paper here: <https://www.ncbi.nlm.nih.gov/pubmed/19105888>

Given the valuable learnings that Project PPM had yielded, it was logical for REACH to 'reach' for the next level and with technical support from KNCV, it was time to move to enhanced, more intensive efforts to engage the private sector, this time with the added component of addressing the growing concerns of DR-TB.

### REACH's role in TB control



# Evolving to EQUIP

The situation of TB in India has evolved over the years. A lot of good has happened in terms of recognition of the problem, increased budgets and commitment to fight it etc. However, every step forward in the fight against TB has often been neutralised by a counter step posed by the disease. The numbers have increased; people are now grappling with drug-resistant strains and most importantly, disconnect between the public and private sectors remains unchanged. Healthcare providers are challenged by the lack of strong weapons to fight the onslaught of TB. Even where the weapons such as new diagnostics and drugs are available, access is not easy.

Project EQUIP presented opportunities to combat all these issues, and even broaden the landscape as it was building on the earlier experiences of the PPM Project. The PPM project had demonstrated that there was a dire need for the public and private sectors to come together and evolve strategies for effective care and prevention of TB. The project had attempted to enable this partnership. However, the approach was somewhat limited as it had attempted to integrate private sector efforts into the RNTCP fold. This yielded mixed results. The learning was that working within the parameters that the patient and his/her care providers were comfortable was vital for real impact.

Disconnect between private providers and RNTCP is owed to several causes. One important cause is the inability on the part of the private providers to follow the processes prescribed by RNTCP owing to lack of time and resources, e.g. documentation, notification etc. On the part of the patients, they are looking for relief from providers of their choice, regardless that TB demands they go and seek treatment from a government healthcare provider. Project EQUIP affords patients and private providers the opportunity to work within their comfort zone and helps them comply with mandatory requirements. This bridge adds strength to the process.

## Project EQUIP – the design, the processes

The EQUIP project, implemented as a partnership between the Chennai Corporation, Resource Group for Education and Advocacy for Community Health (REACH) and KNCV Tuberculosis Foundation in the Netherlands, set out to:

- ⌘ Demonstrate a sustainable model for private sector engagement in DR-TB;
- ⌘ Encourage private providers to use state-of-the-art diagnostics for their patients with TB symptoms;
- ⌘ Promote the use of standardized TB and DR-TB treatment regimens with quality-assured drugs;
- ⌘ Provide coordinated support for private sector patients to improve treatment success.

## GOAL

To evaluate interventions for effective engagement of the private sector in diagnosing, notifying and ensuring early access to care for people with TB, using appropriate treatment regimens of quality-assured drugs in South and Central Chennai. The ultimate goal is to develop a model, in collaboration with RNTCP, for leveraging private sector engagement in TB care.

## PROJECT PERIOD

The project has been implemented by REACH in south and central Chennai, Tamil Nadu, India from April 2015 to June 2017, with patient follow-up continuing until December 2017. An extension through February 2018 has been approved to allow for transition support and advocacy activities for replication of the model in other Indian states.

The project activities were aligned to find answers to the following questions:

1. What interventions/models for private sector engagement in DR-TB can work sustainably within the Indian context?
2. What can be gained from the private sector's effective participation in TB control activities?
3. Are identifiable sub-groups within the diverse private sector more important to engage with to address DR-TB?
4. Will this engagement result in greater demand for quality-assured second-line drugs (SLDs) to treat DR-TB?

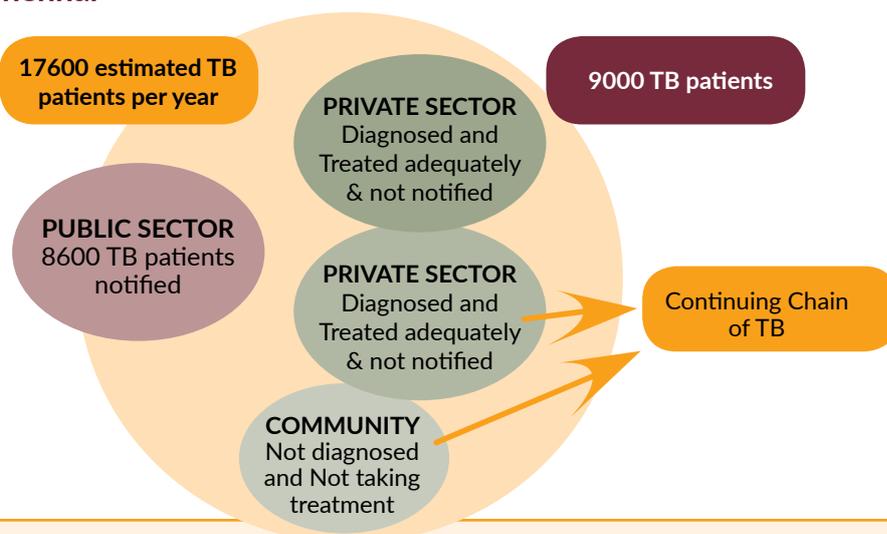
## OPERATIONAL AREAS

The operational areas for Project EQUIP are two of the three districts of Chennai - Central and South districts, comprising Zones 5-15 on the map.

The Central district comprises a population of 1.8 million (18 lakh) and the South district a population of 2.0 million (20 lakh).

Out of an estimated 17,600 TB cases that occur each year, only about 8,600 are notified through the public health system, leaving more than half of the TB cases unaccounted for. These "missing" cases may have been appropriately diagnosed and treated in the private sector, but never notified; may have been inappropriately diagnosed and treated and not notified; or may never have gone to a health practitioner or never been appropriately diagnosed. Both the latter scenarios lead to ongoing TB transmission, development of drug resistance, and/or death, and thus poor overall performance of the TB control programme in Chennai.

## TB Scenario in Chennai



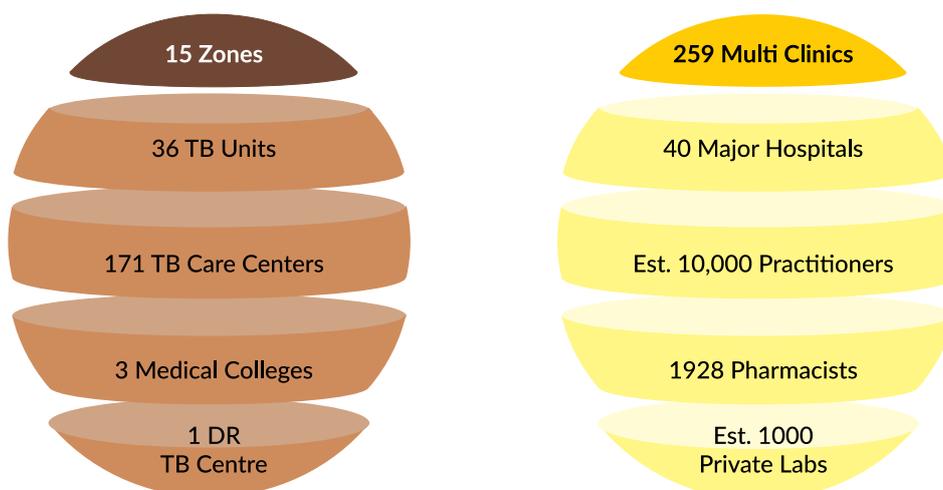
## Background

- ⌘ State capital for southern state of Tamil Nadu and one of the first metropolitan areas of India
- ⌘ Fourth most populous city in India with an estimated population - ~8.6 million
- ⌘ Slum population - More than 25 % of total population
- ⌘ Huge private sector market
- ⌘ Multitude of private practitioners including qualified PPs, qualified AYUSH practitioners, non-qualified practitioners
- ⌘ Presence of large corporate hospitals, polyclinics, stand alone clinics etc
- ⌘ Presence of private laboratories and private pharmacists



## Landscape of players in TB in Chennai

### Chennai City Health Landscape



## PROJECT EQUIP – PROCESS DRIVEN

The activities of EQUIP were conducted at two distinct levels. At one level, they looked to holistically address gaps within the larger landscape of the private healthcare sector and

at another, addressed the needs of the patients through a comprehensive bouquet of services, offered through EQUIP Centres, set up in spaces provided by the private healthcare sector in their hospitals. Thus the map of EQUIP looked like this:

### THE TWO LEVELS AT WHICH EQUIP ACTIVITIES WERE CONDUCTED

Private Provider level	Patient level
⌘ Outreach & sensitization to private providers	⌘ Access to EQUIP centres
⌘ Access to free diagnostics and treatment	⌘ Choice given to patients to choose their healthcare providers & mode to avail medication
⌘ Monitoring and support for referred patients	⌘ Free diagnosis, treatment and nutrition support
⌘ Support for notification	⌘ Home visits
⌘ Constant interaction in order to identify address emerging needs	⌘ Active follow-ups
⌘ Instant response to needs expressed by providers	⌘ Counselling
⌘ Bridge services between RNTCP and private providers	⌘ Treatment adherence support including support for side-effects of medication
⌘ Supply of kits with basic IEC materials, consumables and coupons for diagnosis etc.	⌘ Linkages for MDR-TB treatment if required

## Activities

While activities for private practitioners and patients might have been distinct and customised to suit specific needs of each group, there was conscious and constant effort not to render them exclusive of each other. The effort was always to achieve cohesiveness and keep the patient at the centre. There was also a concerted effort to involve private practitioners in the process of project design through focus group discussions and one-to-one interviews. The results of these discussions were collated and used in the project design. The patient's needs were of primary importance, and the project staff worked with private practitioners to understand these needs and devise strategies wherein they could achieve the project objectives, and yet respect patient and practitioner choices.

An example for this is quoted by Dr Ranganathan, Consultant Chest Physician & Pulmonologist, "TB is not just one disease; it is a part of life. TB patients might be also suffering from other chronic ailments. Indeed TB is a terrorist that

attacks immuno-compromised people. Therefore, treatment needs to be customised and needs close monitoring while patients are on medication. The sheer numbers make it difficult for the government or private systems to do this. The EQUIP initiative seeks to do just that. It bridges gaps that often go unrecognized. For physicians who are short on time, it is comforting to be able to reach out to the project."

### *Focus group discussions and one-to-one interviews*

Before the project began, an intensive exercise was undertaken to assess the real needs of private practitioners and patients (from the government as well as private sector). A cross section of the medical fraternity was included in this such as general physicians, chest physicians and infectious disease specialists, as also patients from the private and public healthcare sector. The findings (annexure 1) from these discussions were then collated and a project design was drawn up. Care was taken to include all the needs that emerged.



## Formation of a Technical Advisory Group (TAG)

Project Equip had a Technical Advisory Group (TAG) in place to provide strategic direction to the intervention. The purpose of having a Technical Advisory Group (TAG), as the name suggests, is for the members of the group to:

- ⌘ Provide high level strategic and technical guidance to the project
- ⌘ Act as facilitators within their constituencies to identify opportunities and mobilize additional individuals, organizations or resources.

The duties of the group were outlined as follows:

- ⌘ Review the project design and provide inputs on improvements from the perspective of their constituencies
- ⌘ Act as Ambassadors for the project goals and objectives within their constituencies
- ⌘ Review project progress on a quarterly basis and advise the project team on any course corrections needed
- ⌘ Advise the project team on technical matters related to project activities
- ⌘ Act as expert consultants for project participants, including providers and patients
- ⌘ Connect the project team with other key stakeholders who can add to the success of the project
- ⌘ Advise on strategies to sustain project activities beyond the project duration.

The TAG met once every quarter through the project period to share project updates and give advice and support. Dr Janani Sankar, Senior Consultant, Kanchi Kamakoti CHILDS Trust Hospital, Chennai, is a TAG member. She says, “The formation of a TAG genuinely helped in fostering collective suggestions for a larger good. The presence of doctors from different specialities in the group promoted cross-learning and sharing. Paediatric TB is such a serious but hidden problem and it also disseminates so rapidly.

By sharing this in the group, we have motivated doctors to promote screening for children who have been in contact with adults with TB.”

## Project activities

### Outreach & sensitization of chest physicians

Data has established that when a person feels unwell, s/he reaches out to the private sector. Therefore this is the starting point. Building on its experience with private practitioners in the PPM model before EQUIP, REACH first engages with private practitioners. The difference has been that while general practitioners were a part of the earlier PPM project, with EQUIP, REACH shifted focus to include chest physicians as well. This was with the assumption that more referrals would come from chest physicians as they would see more symptomatic patients. This strategy has worked and the EQUIP team has kindled a chord in the physicians by their approach and efforts.

The private practitioners are given kits that contain useful information about the facilities available at the EQUIP centres and the support patients will get. They are also given a copy of the Standards for TB Care in India (STCI). Physicians, who are otherwise busy, find this very convenient. The EQUIP staff also participates in Continuing Medical Education (CME) programs





and gives updates and useful information to the staff in large hospitals in their continuing efforts to keep physicians up to date with the latest happenings in the TB sector. Most importantly, they are reassured that they will get feedback about their referred patients.

### ***Providing access to newer diagnostics***

One of the key objectives of the project is to provide newer diagnostics to the patients free of cost. On the ground, awareness about the availability of these tests was low among the private practitioners. Therefore Project EQUIP took on the responsibility of popularizing CB-NAAT among them. This resulted in high demand and uptake for these tests among patients from the private sector. The project also partnered with stand-alone labs to decentralize testing and make it more accessible to the patients. Under EQUIP, three 4-cartridge CB-NAAT systems were procured and testing is being done at the EQUIP centres.

### ***Documentation support***

Each provider is also given a book of coupons. The book is comprehensive as it first captures details of the patient, and then offers free service tear-offs – one each for a sputum examination, X-ray and treatment support. The patient carries these to the EQUIP Centre and the staff at the centre take over after that, thus relieving the

patient of the tedium and fatigue of going to different places for different services. Where required, the staff also provides home-based sputum collection etc. The book of stubs when it is complete, is given back to the EQUIP staff. This helps them to keep track of the number of patients referred by each doctor. Where the doctor is unable to find time to fill in the details, the EQUIP staff steps in to help.

Similar support is given for notification. The EQUIP team completes all the formalities for notification from the EQUIP Centre, thus relieving busy physicians of this additional task, as well as helping the system to track the numbers in real time.

### ***Setting up of EQUIP Centres***

EQUIP Centres are set up to function as referral hubs for TB care. EQUIP Centres are set up to function as referral hubs for TB care. Mostly located within healthcare settings (private/trust hospitals), these centres have evolved as spaces for active interaction, counselling and are being used for peer experience sharing. The EQUIP Centres serve as drug collection and sputum collection points. They have over time become vibrant hubs of community empowerment and interaction.

The EQUIP Centres have been set up in space

provided by private hospitals in their premises. Aside of providing the space, these hospitals e.g. Stedeford Hospital, have deputed staff to act as Nodal Persons in order to facilitate easy referrals and follow-ups from within the hospital.

Dr Vivek Rao Naidu, Nodal Medical Officer, says, “We have so many departments in our hospitals. It is likely that all the departments and specialities see TB patients. In order to inform them that we now have a specialised EQUIP Centre within our hospital, we rolled out an internal communications plan, sent out circulars and keep sending information about the Centre. We also held a dedicated CME session to disseminate information about TB. This has created demand for the services offered by the centre.”

Several innovations such as this have been included into the project. Free GeneXpert testing was offered to all those patients whose physicians felt they needed it. EQUIP has acquired and installed the GeneXpert machine at a private health facility. However, sputum transportation threw up challenges so a volunteer programme has been rolled out with a small incentive attached. Community volunteers have been equipped through these hubs to transport sputum to the lab for testing. Capacity building is an important part of this as transporting infectious material is a specialised task. The volunteers are thoroughly trained before being actually give the sputum to transport.

Lakshmi (name changed) is one such volunteer. She is a young mother of two and confesses she never stepped out of home for any reason alone. “My husband or children were always there for any errands I needed to be run and my job was pretty much confined to home. Then by unfortunate circumstances, my husband’s business took a dip and out of depression, I came to this EQUIP Centre on his advice. He suggested I become a volunteer so that I could overcome my depression and learn to face life bravely. My life has truly changed after this. I have been trained to carry sputum to the lab and come here only when called. I get a small incentive for the work I do and I’m so proud when I’m able to share my husband’s burden. I have also become very confident about bus routes and commuting. I’m a new person today!”

## EQUIP Centre as a hub

Services offered to PPs for active engagement through an EQUIP Centre

- ⌘ Access to free X-rays
- ⌘ Access to free Xpert testing
- ⌘ Access to free daily treatment
- ⌘ Support for notification
- ⌘ Treatment adherence support
- ⌘ Home visits
- ⌘ Drug collection
- ⌘ Nutrition coupon issue
- ⌘ Counselling
- ⌘ Peer group and support meetings
- ⌘ Documentation
- ⌘ Linkage to care for MDR-TB patients diagnosed in the private sector
- ⌘ Contact screening
- ⌘ Linkages with paediatric hospitals in order to facilitate contact screening for children and INH prophylaxis

## Support for MDR-TB patients

One of the objectives for EQUIP is to demonstrate a sustainable model for private sector engagement in DR-TB. This has been given special focus and support has been given to MDR-TB patients in the form of referrals, treatment support and counselling. An example is the story of Priya.

### ***Fighting the odds of her life***

Priya (name changed) came to the REACH office seeking a second opinion from a TB consultant. Very lean, hair neatly tied into pigtails with ribbons, she was able to give an account of her symptoms and initial treatment more clearly than her father, a recovered TB patient. Within a few days, she was found to be suffering from MDR-TB and was referred to a tertiary hospital for MDR TB care.

The diagnosis came as a shock to Priya who was due to appear for her board examinations. Her home environment was tough owing to the frequent quarrels between her parents. Her father was also diagnosed to have MDR-TB and was started on treatment. He has earlier taken irregular treatment as he was an alcoholic. Added to this, out of depression Priya had

tried to commit suicide. The EQUIP staff took the help of the District TB Officer, who took special efforts to meet Priya. She counseled and motivated her to continue treatment along with her studies. Arrangements were made through the EQUIP initiative to support Priya and provide extra nutrition through a nearby hotel. She was reimbursed the costs incurred, while taking the injections from the private providers nearer her home.

Priya also had a lot of support from her friends, teachers and school principal, who pitched in to help her with studies and provided nutritional support. Through she was young, she herself took care to sit keeping a little distance from her other classmates, wore a mask at all times as she knew that she should not infect someone else. The EQUIP staff met her every 3 weeks to check on her and keep her morale high. Priya has now completed her first phase of MDR-TB treatment and gained 15 kg. The hope is that she completes treatment and recovers completely.

### Convergence with other REACH programmes

Project EQUIP is seamlessly integrated with other REACH programmes such as Axshya<sup>5</sup> and the Pharmacy Initiative. For the patients referred from the pharmacy their physicians are contacted and sensitized on services provided through EQUIP. This ensures that the catchment area of Project EQUIP can become wider and at no extra investment, can be of benefit to more patients in need of support.

### Linkage with tertiary level private paediatric hospital

A leading paediatric multi-specialty hospital has provided space for an EQUIP centre for diagnosing paediatric TB and for treatment support. The doctors from this hospital were addressed through a Continued Medical Education program in June 2017. An infectious disease specialist and a lab medical officer have been identified as nodal persons to coordinate referrals. This will facilitate in strengthening the referral loop for paediatric patients in diagnosis and treatment support.

<sup>5</sup> A Global Fund Round 9 project which was a civil society movement for increasing the visibility of RNTCP among key and vulnerable populations

## MAIN FEATURES OF THE EQUIP MODEL FOR PRIVATE PROVIDER ENGAGEMENT

### A BIRD'S EYEVIEW

- ⌘ One-on-ones/workshops for provider sensitization and engagement in the program
- ⌘ Access to free diagnostics with chest X-ray (CXR) and GeneXpert through a voucher system
- ⌘ Instruction of referred patients on how to produce a sputum specimen and where to go for testing
- ⌘ Facilitating specimen transport to GeneXpert sites as needed
- ⌘ Rapid reporting of results by email and/or SMS from CXR and GeneXpert facilities
- ⌘ Assistance to private providers with the TB case notification process by EQUIP staff
- ⌘ Access to free quality-assured drugs for TB treatment using either a thrice-weekly or a daily treatment regimen (supplied by RNTCP and through EQUIP-funded pharmacy vouchers respectively)
- ⌘ Interface between private providers and patients through EQUIP centres established in private health facilities and staffed by EQUIP
- ⌘ Access to free treatment for DR-TB through referral to the public health system
- ⌘ Patient navigation and ongoing treatment adherence support through EQUIP project staff
- ⌘ Counselling services for treatment adherence and to mitigate social impact of TB
- ⌘ Patient and PP-friendly communication materials
- ⌘ Conditional nutritional enablers for patients continuing treatment through a coupon system
- ⌘ Ongoing feedback on patient status to private providers by EQUIP project staff

## Meetings, experience sharing, capacity building – an ongoing task

Experience sharing meetings, capacity building efforts and regular interaction through the workshop has been an ongoing effort to sustain the cooperation and momentum achieved.

Dr Radha says, “It is important for us to stay engaged with the private practitioners as this helps us to build rapport with them and give them the confidence that we are there to support them and their patients. This support has also been appreciated by them.”

Dr R Rajamahendran, Head, Hospital Administration, Sir Ivan Stedeford Hospital endorses this support. “Active follow-up and prompt response to our requirements have been unique features of this project. We are seeing the results on the ground, particularly when we see how our patients have benefitted.”

Meetings, interactions and capacity building were not limited to practitioners. Patients too received this support, which could have been as basic as how to collect a sputum sample, and as detailed as

how to follow the treatment regimen, and how to maintain their nutrition status. Patients are also intensively counselled on the need to adhere with the treatment till completion in order to achieve a complete cure. In addition, information on cough hygiene and other aspects in order to protect people around them was also given to them.

Project EQUIP has enabled a 360° approach to TB care and prevention. The project activities have taken into consideration that there are several approaches at work in the healthcare sector and each caters to a different patient need, or a healthcare provider’s preferred approach to providing treatment. EQUIP has also, at all times been aware of the challenges posed by unchecked TB in the population and the sense of urgency that exists to control this spread. There is an effort at work to work productively with all approaches, adapt and adopt best practices and build bridges between the various approaches. The end result as expected is benefits to the patients in need. A look at whether real benefits have accrued to the patients...



# Seeing the results

Manjula (name changed) has just recovered from TB. She is 12-years old, but looks much younger. She hails from the *Nari Koruwar* nomadic Indian tribal community. She is bright eyed and perky. Her father and grandmother who have accompanied her to the EQUIP Centre happily share that she is fit after completing her treatment. She has been treated in the private sector with support from staff at the EQUIP Centre. Dr Ranganathan, who treated her says, “Manjula’s case gives me a tremendous sense of satisfaction. The staff from EQUIP brought her to me with extensive TB in both the lungs and the way she has responded to treatment is very heartening. I attribute it to the regular follow-up and other forms of support, particularly nutritional support she got from the staff at the EQUIP Centre. I’m happy to have made a difference.” Dr Ranganathan has also allowed Project EQUIP to use one of his premises as an EQUIP Centre.

## Benefits to participants in the EQUIP model

### TB Patient

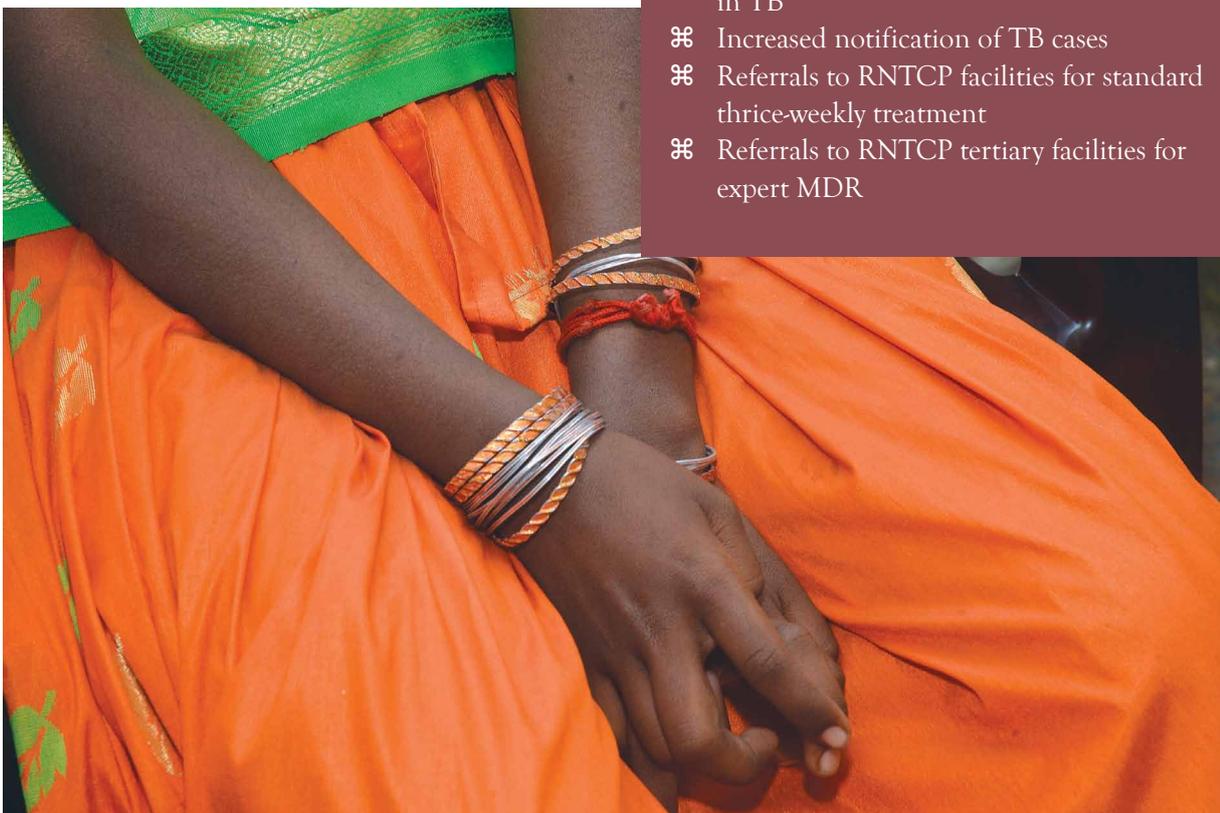
- ⌘ Free diagnosis for TB
- ⌘ Counselling services
- ⌘ Free drugs - daily or thrice-weekly regimen
- ⌘ Monitoring and support for treatment adherence
- ⌘ Nutritional support
- ⌘ Education materials on TB
- ⌘ Evaluation of household contacts

### Private Provider

- ⌘ Free Quality diagnostics for TB - CXR and CB-NAAT
- ⌘ Daily regimen as per Standards for TB Care in India
- ⌘ Patient follow-up support for treatment adherence
- ⌘ Linkages for MDR-TB patients to tertiary hospital
- ⌘ Support for notification to Nikshay
- ⌘ Communication materials on TB

### RNTCP – Chennai Corporation

- ⌘ Increased participation of private sector in TB
- ⌘ Increased notification of TB cases
- ⌘ Referrals to RNTCP facilities for standard thrice-weekly treatment
- ⌘ Referrals to RNTCP tertiary facilities for expert MDR

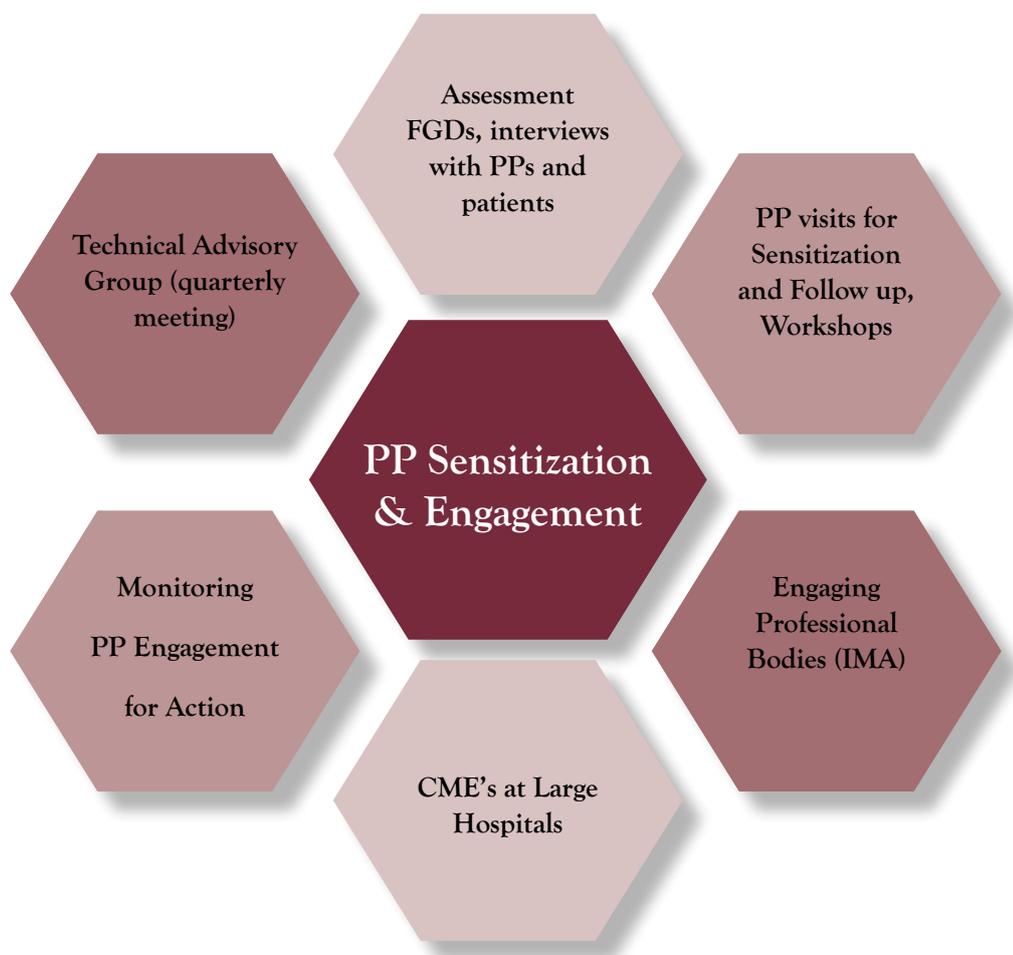


Manjula’s father reminisces that he has struggled to bring up his daughter after her mother died and that his mother has helped him in caring for her. “We are unlettered; we don’t have any earning skills and make a livelihood selling beads or fish or doing odd jobs. When Manjula fell sick, we didn’t know where to seek treatment for her. I’m so grateful to people in this centre for all their help.”

Manjula’s case demonstrates that effective participation of the private sector in TB control efforts in India is possible and can yield significant benefits to private providers and their patients as well as the public sector by encouraging appropriate TB diagnostic and treatment behaviors.

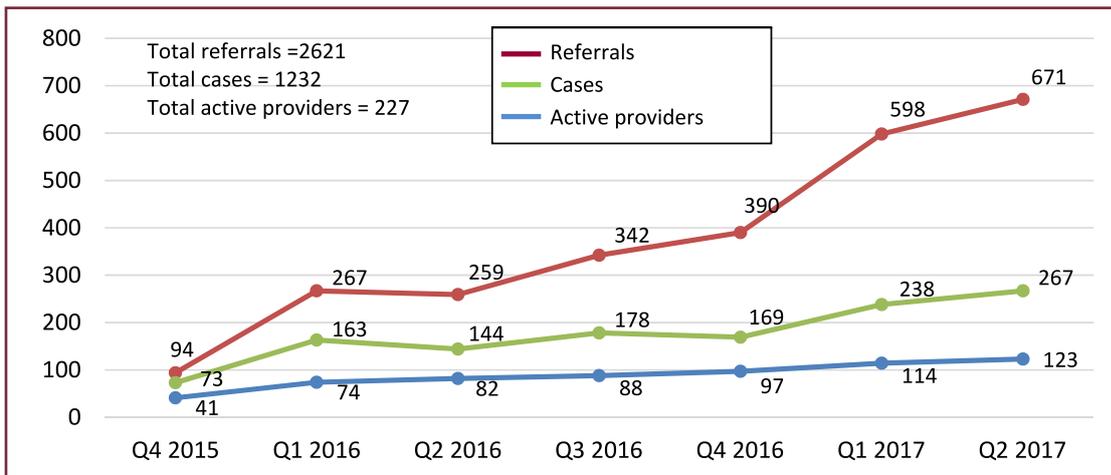
Through EQUIP, TB cases were identified quickly, confirmed with state-of-the-art diagnostics, and promptly received appropriate treatment as per Standards of TB Care in India (STCI) with ongoing support for treatment adherence. Coordination through EQUIP as the interface agency between diverse private and public stakeholders and patients was critical to success.

Using a participatory approach, EQUIP worked with key private provider target groups (chest physicians, general practitioners, and selected specialists) to devise a model that would best meet their needs for engaging with public sector TB control efforts.

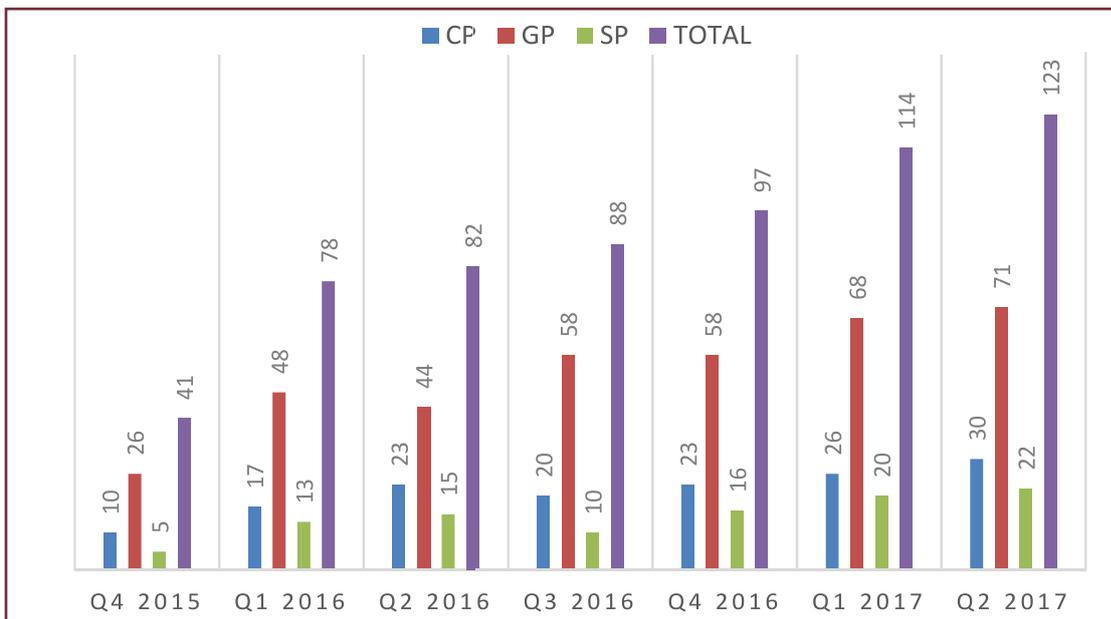


# The numbers speak

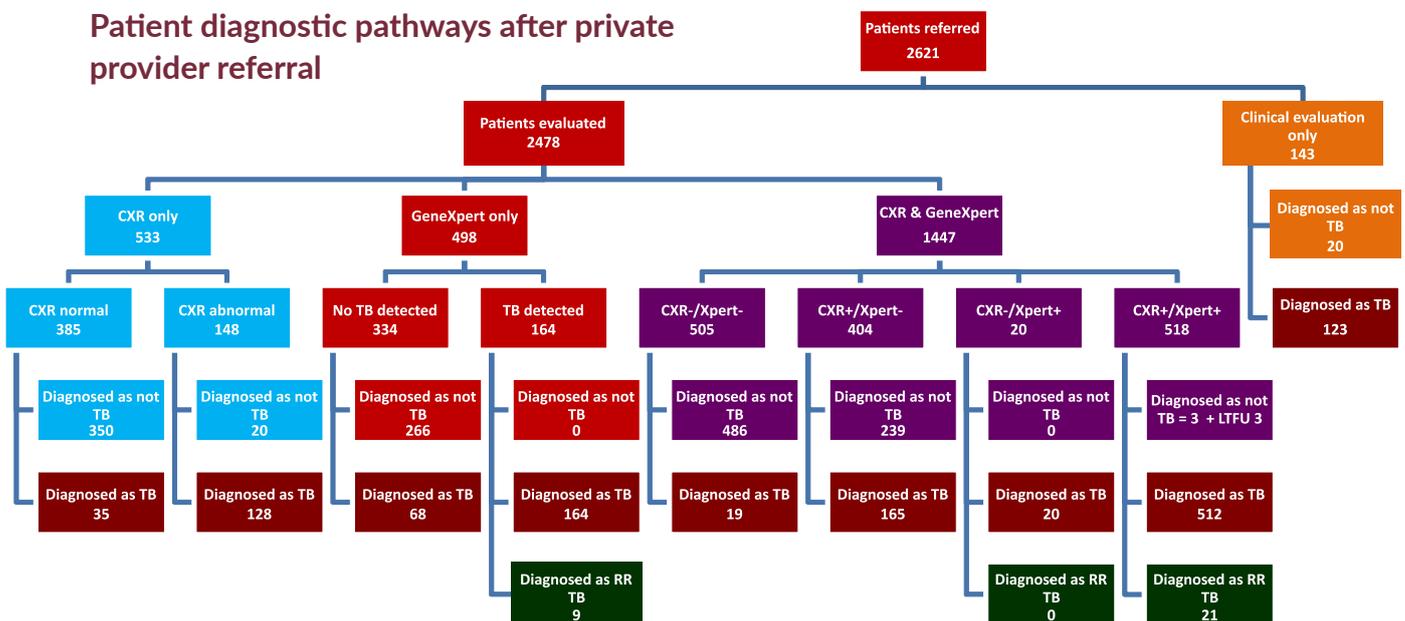
## Quarterly Trend of Referrals, Patients and Engaged PPs



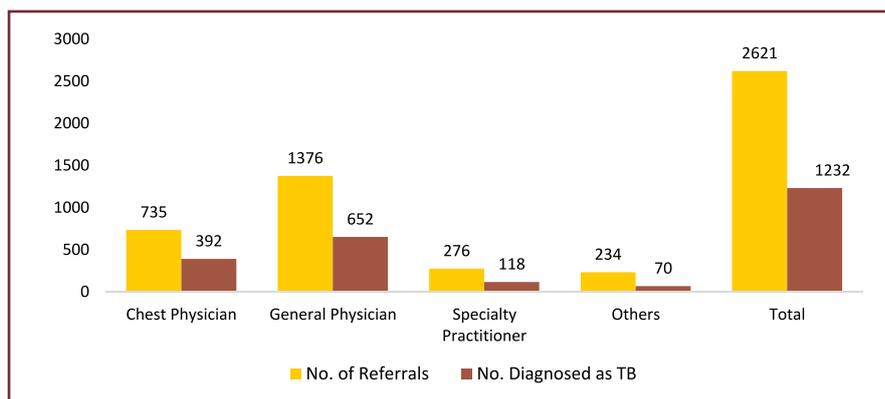
## Number of engaged PPs by type during Q4 2015 - Q2 2017, by quarter of engagement



## Patient diagnostic pathways after private provider referral



## Referrals and TB cases by provider type



## Status of Rif Resistance Patients as of October 2017 (n=31)

Status	n
On MDR Rx	20
REACH & Govt DOTS (not DR TB)	5
Died	2
Lost to Follow Up	4
Total	31

## Treatment Outcome according to type of PP through Q3 2017

Treatment Outcome	Practitioner Type			Total
	CP	GP	SP	
Treatment Success	83	195	63	341
Died	5	4	3	12
Lost to follow up	6	11	2	19
Transferred to RNTCP facility treatment	1	3	1	5
Total	95	213	69	377

## Range of Referrals by Individual Practitioners

Number of Referrals	Number of Practitioners	Percent	Cumulative Percentage
1-5	142	62.6	62.6
6-10	33	14.5	77.1
11-30	31	13.7	90.7
31-50	14	6.2	96.9
51-70	2	0.9	97.8
71-100	2	0.9	98.7
>100	3	1.3	100
Total	227	100	

Abbreviations: GP- General practitioners | CP- Chest physicians | SP- Speciality practitioners | AP- Practitioners of other systems of medicine

# Collation of findings from FGDs and interviews

## Patients from PPM and Government

- ⌘ All patients had visited a private practitioner before starting ATT at government/PPM.
- ⌘ The patients were tested and treated for other illnesses before diagnosing TB and hence there was a delay in confirmation and initiation of TB treatment in private sector.
- ⌘ Patients had spent their earnings/savings on investigations and wanted quality diagnostics free of cost.
- ⌘ Cost of drugs was the main reason for starting DOTS at Government/PPM centre and hence free drugs would be beneficial.
- ⌘ Good follow-up in PPM centers / government facilities.



- ⌘ Patients suffered from side effects like extreme exhaustion, generalized itching, and a feeling of depression.
- ⌘ As family income is reduced due to illness, monthly supply of rice, wheat, pulses, and nutritional supplements will be of help.
- ⌘ The patients from PPM centre were agreeable to notification and home visits whereas patients from Government sector preferred phone calls and visits outside their phone with prior intimation.

## General Practitioners

- ⌘ They are seeing a good number of TB cases with an increase in the number of extra pulmonary TB.
- ⌘ Sputum Examination and Chest X-ray are done to confirm pulmonary TB and GenExpert for extrapulmonary TB.
- ⌘ Daily regimen with AKT-4 and AKT-3 are preferred due to better compliance.
- ⌘ Patients referred to government centres with clinical findings, abnormal X-ray, and who are smear negative are not started on DOTS immediately. Hence there is a need to purchase drugs from pharmacies.
- ⌘ Referrals to DOTS centres were based on the patient's choice.
- ⌘ MDR TB patients were referred to government centres reason being difficulty in deciding drug combinations, dosages, bad prognosis, prolonged treatment, and difficulty in follow up.
- ⌘ There is a need to ensure that patients complete the investigations and consultation in one day and should not make multiple trips to different centres.

## Chest Physicians

- ⌘ Come across a large number of TB cases (approximately minimum 15 to maximum 120 cases of presumptive TB per month).
- ⌘ They are convinced that counseling plays a very important role in drug adherence.
- ⌘ Monitoring tolerance to drugs and counseling on side effects ensures completion of treatment.



- ⌘ Drug availability, cost and side effects are the barriers for treatment.
- ⌘ GenExpert, Sputum microscopy/culture and chest X-ray are the common diagnostic tools
- ⌘ Subsidized/free diagnostics and drugs will definitely benefit TB patients.
- ⌘ Poor compliance has been observed among MDR TB patients due to prolonged treatment and cost involved.
- ⌘ They are willing to provide information if a simple mechanism is put in place.
- ⌘ Most of the general practitioners have not come across MDR TB and a few who have seen cases refer them to the government tertiary centres. The overall opinion expressed was they would not treat MDR TB patients as there was a risk of infecting other patients, staff, and complexity of treatment.
- ⌘ Varied options for patient support package included-
  - Nutritional support for patients including provisions/ protein supplements
  - Moral support /Counseling
  - Free/Subsidized / Tests/ Drugs
  - Assist in management of side effects
  - Livelihood Options
  - Multivitamin supplements

### Key Informant Interviews - General Practitioners

- ⌘ Most of them used sputum test and chest X-ray for confirmation of TB however some PP's continue to use serological tests.
- ⌘ Many of the practitioners refer the patients to the Government facility/ chest physicians, however some of them treat using AKT4, AKT-3, and individual TB drugs.
- ⌘ Most of the doctors are willing to notify if a simple system is put in place and data collected periodically. A few stated that they are reporting to the Chennai Corporation.

## A wealth of learning

The project yielded valuable lessons as it gave room for deep interaction with both – private providers and patients. Based on these interactions as well as data gathered and analysed, some recommendations have been collated. They are as follows:

1. Ongoing outreach to private providers on a one-to-one basis and through multiple other channels is necessary to maintain their interest in TB activities, given that all of them have many competing priorities.
2. Recognize the efforts providers have made to diagnose and notify TB cases to RNTCP and to prescribe appropriate, low-cost regimens to their patients.
3. Widely publicize the updated guidance from RNTCP allowing for daily regimens, and encourage providers to access RNTCP daily regimen drugs to treat their patients. This is a labour-intensive activity that must be considered when planning private sector initiatives.
4. Private sector engagement continues to require some sort of “interface agency” to play the coordination role between RNTCP, individual providers, and patients. This will likely continue to be the case until processes are streamlined, notification becomes mandatory, and quality services are widely available. The role and scope of interface agency work should be recognized and integrated within government schemes.
5. Continue to provide free or low-cost access to cartridge-based nucleic acid amplification tests (CBNAAT) as the initial diagnostic for private patients with TB symptoms. Make CB-NAAT available in private facilities, as this project did. Encourage private providers to refer more of their symptomatic patients for CB-NAAT testing. Report back to them on the overall yield of their referrals and discuss why referring additional patients is warranted.
6. Support for notification of TB cases through Nikshay is necessary to increase

### I will complete my treatment

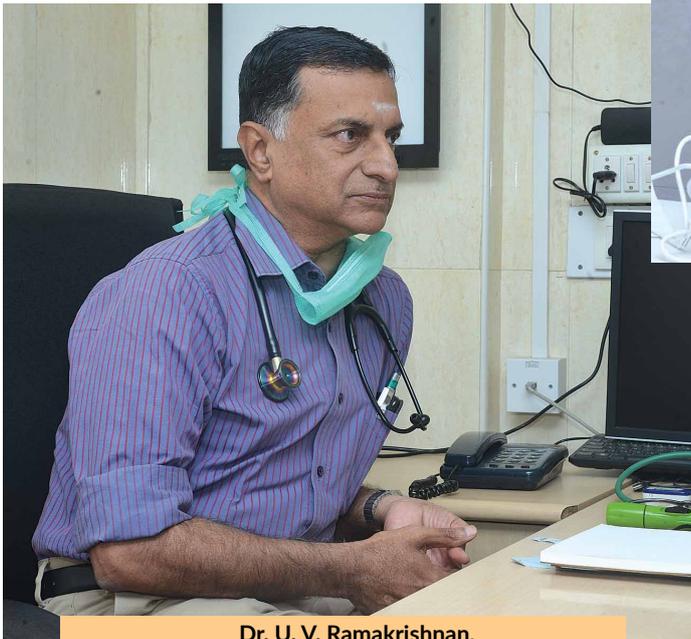
I am a 21-year-old mother of a beautiful one-year-old baby girl and live in a remote village in Nellore in Tamil Nadu’s neighboring Andhra Pradesh State, along with my husband and in-laws. As I was down with cough and fever for a few months, I visited Tamil Nadu to stay with my parents. I was taken to a private hospital for a check-up, where the doctor asked me to undergo the GeneXpert test. I was shocked when my tests were positive for TB. As I had plans to stay at my mother’s home for a while, I started my treatment here. Within days of starting treatment, my in-laws visited me and expressed their irritation over me spending time with my parents. They told me that they would take the baby with them and I could return as soon as I felt well. I did not want to reveal to them that I was suffering from TB. My mother has been staying with my in-laws and is helping them take care of my baby. The most difficult part of the treatment has been to be away from my baby. I do not want to share about my disease with my husband and my in-laws as I am not certain if they will support me. I shared these fears with the field officer from REACH, who supported my decision and helped me start my treatment. She has been very encouraging and motivating. I have completed two months of treatment and my follow-up sputum examination tests have been negative. I will complete my treatment as I have a good physician and a field officer in addition to my loving and caring parents who have helped me get better.” – TB Patient (identity withheld).



**Dr. Ranganathan D,**  
Chest Physician practising in Chennai



**Dr. Janani Sankar,**  
Pediatrician practising in Chennai



**Dr. U. V. Ramakrishnan,**  
Chest Physician practising in Chennai



**Dr. O. R. Krishnarajasekar,**  
Chest Physician practising in Chennai

the proportion of private sector patients who are notified. Although the online system allows access by private providers, most do not take the time to spend the time to complete the forms, particularly the smaller clinics with few support staff. A more simplified process will be required to engage the private sector in the notification process.

7. Providing patient and provider-centered services is an essential component of any private sector engagement model. Advocacy for expansion of the EQUIP treatment model can help maintain excellent treatment success rates.
8. All private provider types can contribute substantially to increasing TB case notification and early DR-TB case detection and should be engaged in TB control efforts. Using a database capable of tracking referrals and TB cases diagnosed by individual provider can help

target further efforts to engage the private sector by identifying high performers as well as areas for improvement.

EQUIP has yielded learnings; it has resulted in benefits for patients and providers alike. More importantly it has demonstrated, ground-up, that the private sector can and does play an important role in TB care and prevention. It is also evident that an interface agency can make the vital difference while bridging gaps between the public and private sectors, as well as give much-needed support to patients to help them adhere to long and often stressful periods of treatment. The next, most obvious step is to sustain and indeed scale-up the interventions that made this integration possible. The path is already set for this process through the TB free Chennai initiative. A glance at what it will entail...



# Going towards sustainability and scale

## Transition to TB free Chennai

Initiative	Funder	Private Sector Partner	Centers	Diagnostic Services	Treatment Option
REACH PPM	REACH	GPs & SPs	4	Sputum smear	Thrice weekly
EQUIP	Lilly KNCV	CPs, GPs, SPs, APs	13	GeneXpert Digital X Rays Sputum smear	Daily/Thrice weekly
TB FREE CHENNAI	USAID Stop TB partnership	CPs, GPs, SPs, APs, Pharmacies, Lab	36 (Nakshatra Centers)	GeneXpert Digital X Rays Sputum smear	Daily/Thrice weekly

REACH has been closely working with Corporation of Chennai for over 17 years. This positions the organisation well to join hands with COC to achieve together, the ambitious vision of a TB free Chennai. The specific goals will be to increase case notification rate to 80 per cent over the next four year, as well as reaching and maintaining 86 per cent treatment success rates in the same period.

The strategies to achieve this will be:

- ⌘ Strengthen private sector engagement
- ⌘ Scale up proven interventions
- ⌘ Roll out innovations to close critical programmatic gaps

The strategies have been used by REACH to good impact as the previous sections have demonstrated, with data. The proposed activities yielded demonstrable success under Project EQUIP.

Private practitioners are willing and able to come together to address the challenge of TB through a collective effort. From the qualitative and quantitative data available thus far, it appears that engagement of private providers

and improvements in the interface with the RNTCP can indeed improve case notification, adherence to appropriate diagnosis and treatment methods, and improved patient outcomes. In addition, providing private practitioners and patients free access to GeneXpert testing can increase early recognition of drug resistance and commencement on appropriate second-line regimens. A major benefit was the chance to diagnose cases early, before they reach the public sector (after long delays), and thus to cut transmission of MDR-TB through rapid identification and prompt, appropriate, quality-assured treatment. EQUIP centres established by REACH have established the need for an intermediary space and now form a key element of the TB free Chennai initiative. They will be supported by the Chennai Municipal Corporation.

COC also envisages expanding RNTCP services and enhancing capacities to cater to increased referrals resulting from the increased private practitioner engagement. Availability of daily regimen and GeneXpert testing, as well as increased X-ray facilities will enable greater access to those needing free diagnosis and treatment. These facilities will be available to all. Additionally

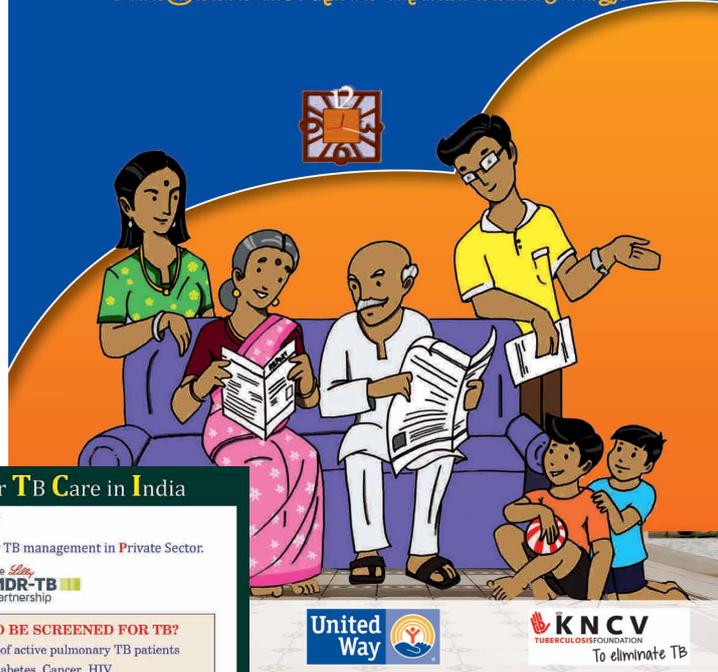
all case notifications from private health sector would be notified in Nikshay and facilitation of treatment of MDR-TB patients in private sector using the programs PMDT regimen will be undertaken.

REACH has achieved success in advocating these approaches and strategies for adoption into COC's TB free initiative, thereby ensuring sustainability for them. Together they can accomplish the last mile and enable a TB free Chennai, which has immense potential to go forward and be integrated into policies for a TB free India. Then people like Murli will have more assurances of getting accurate and timely diagnosis and treatment, because there will be cohesiveness in the TB programme. It is time to become TB free.



# காசநோய் பற்றிய விவரங்களை தொய்ந்து கொள்ளுங்கள்!

காச நோய் பற்றி தகவல்கள் அடங்கிய இந்த துணுக்கியிரகரம் உங்களுக்குக் கவிய விசேஷமாக வழவமைக்கியிருள்ளது.



## I diagnose and treat TB using Standards for TB Care in India

### PROJECT - EQUIP

Enhanced use of Quality drugs and Utilization of Innovative diagnostics for TB management in Private Sector.



#### SCREENING

##### WHEN TO LOOK FOR TB?

- Cough and / or unexplained fever > 2 weeks
- Haemoptysis
- Significant weight loss
- Abnormal Chest X-ray suggestive of TB
- Lack of normal weight gain in children

##### WHO SHOULD BE SCREENED FOR TB?

- Child contacts of active pulmonary TB patients
- People with Diabetes, Cancer, HIV
- Patients on immunosuppressives or steroids
- Health care workers
- Slum dwellers

#### DIAGNOSIS

PULMONARY TB	EXTRAPULMONARY TB	PROBABLE TB	PAEDIATRIC TB	MDR TB
<ul style="list-style-type: none"> <li>Sputum smear examination: 2 sputum specimen for TB bacilli</li> <li>Chest X-ray</li> <li>CB-NAAT (GeneXpert)</li> <li>TST and IGRAs are NOT recommended for diagnosis of active TB in adults</li> </ul>	<ul style="list-style-type: none"> <li>Tissue diagnosis (histopathological or bacteriological confirmation) mandatory</li> <li>Lymph node aspirate or biopsy, pus, pleural, peritoneal or pericardial fluid, CSF, omentum, etc. may be used</li> <li>Tests to be done include smear microscopy, culture, CB-NAAT, molecular tests</li> </ul>	<p>In the absence of microbiological confirmation, TB can be diagnosed based on strong clinical and other evidence (X-ray, FNAC, histopathology etc)</p> <p>For those with negative rapid molecular test result, conventional culture of appropriate specimen to be done</p>	<p>Microbiological confirmation (sputum, gastric aspirate or lavage, bronchoalveolar lavage), with CB-NAAT, smear microscopy or culture</p> <p>If microbiological confirmation not possible, 'probable TB' can be diagnosed based on history, TST, clinical and X-ray findings</p>	<ul style="list-style-type: none"> <li>Diagnosis of MDR/XDR TB based on accredited lab results</li> <li>Treatment with quality assured second line drugs</li> <li>All TB patients should be counseled and tested for HIV infection</li> <li>Rapid molecular Drug Sensitivity Testing of choice</li> <li>Patients with MDR TB to be tested for second line drugs</li> </ul>

#### TREATMENT

Type of patient	Treatment with First line Regimen		Management of Drug Resistant TB	Treatment Adherence																	
	Intensive phase	Continuation phase																			
New	Isoniazid, Rifampicin, Ethambutol, Pyrazinamide for 2 months	Isoniazid, Rifampicin, Ethambutol for 4 months	<ul style="list-style-type: none"> <li>Diagnosis of MDR/XDR TB based on accredited lab result</li> <li>Treatment with quality assured second line drugs</li> </ul>	<ul style="list-style-type: none"> <li>Supervision and support should be individualised.</li> <li>Identification and train of treatment supporter.</li> </ul>																	
Previously treated	Streptomycin*, Isoniazid, Rifampicin, Ethambutol, Pyrazinamide for 3 months	Isoniazid, Rifampicin, Ethambutol for 5 months	<table border="1"> <thead> <tr> <th></th> <th>Intensive phase</th> <th>Continuation phase</th> </tr> </thead> <tbody> <tr> <td>MDR TB</td> <td>K,Z,L,Emb,Eth,C for 6-9 months</td> <td>L,Emb,Eth,C for 18 months</td> </tr> <tr> <td>XDR TB</td> <td>Cm,Mfx,PAS,H,Ctz, Lzd,Amx/Calv for 6 - 12 months</td> <td>Mfx,PAS,H,Ctz, Lzd,Amx/Calv for 24 months</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>3 weight band based dosage</li> <li>All patients should be evaluated for surgery</li> <li>MDR and XDR TB should be managed by a TB specialist</li> </ul>		Intensive phase	Continuation phase	MDR TB	K,Z,L,Emb,Eth,C for 6-9 months	L,Emb,Eth,C for 18 months	XDR TB	Cm,Mfx,PAS,H,Ctz, Lzd,Amx/Calv for 6 - 12 months	Mfx,PAS,H,Ctz, Lzd,Amx/Calv for 24 months	<p><b>Chemoprophylaxis</b></p> <ul style="list-style-type: none"> <li>Children &lt; 6 years who are contacts of a TB patient, and in whom TB has been excluded should receive IHI chemoprophylaxis for minimum 6 months duration.</li> </ul> <p><b>Contact screening</b></p> <ul style="list-style-type: none"> <li>Household and close contacts should be screened for TB</li> <li>For paediatric patients, reverse contact screening should be done</li> <li>Contacts of drug resistant TB patients should be screened</li> </ul>								
	Intensive phase	Continuation phase																			
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XDR TB	Cm,Mfx,PAS,H,Ctz, Lzd,Amx/Calv for 6 - 12 months	Mfx,PAS,H,Ctz, Lzd,Amx/Calv for 24 months																			
<p>DOSE (in mg.)</p> <table border="1"> <thead> <tr> <th>Drug</th> <th>Daily treatment</th> <th>Thrice-weekly treatment</th> </tr> </thead> <tbody> <tr> <td>Isoniazid</td> <td>300</td> <td>600</td> </tr> <tr> <td>Rifampicin**</td> <td>450</td> <td>450</td> </tr> <tr> <td>Ethambutol</td> <td>800</td> <td>1200</td> </tr> <tr> <td>Pyrazinamide</td> <td>1500</td> <td>1500</td> </tr> <tr> <td>Streptomycin</td> <td>750</td> <td>750</td> </tr> </tbody> </table> <p>* For first 2 months ** 600 mg for patients weighing 60 kg or more</p> <p>Dosing can be daily or thrice-weekly</p> <p>Continuation phase can be extended by 3-6 months for skeletal, spinal and neuro TB</p> <p>Paediatric and HIV+TB patients should receive daily treatment</p> <p>Fixed Dose Combinations recommended</p>			Drug	Daily treatment	Thrice-weekly treatment	Isoniazid	300	600	Rifampicin**	450	450	Ethambutol	800	1200	Pyrazinamide	1500	1500	Streptomycin	750	750	<p><b>NOTIFICATION OF ALL TB PATIENTS IS MANDATORY AS PER THE MINISTRY OF HEALTH AND FAMILY WELFARE</b></p> <p>SEROLOGICAL TESTING MANDATED BY THE GOVERNMENT AND WHO</p>
Drug	Daily treatment	Thrice-weekly treatment																			
Isoniazid	300	600																			
Rifampicin**	450	450																			
Ethambutol	800	1200																			
Pyrazinamide	1500	1500																			
Streptomycin	750	750																			

#### PROVIDERS

1. Support for diagnosis through X-ray and CB-NAAT (GeneXpert)
2. List of Government and Private diagnostic centres
3. Support for second opinion
4. Treatment adherence support
5. Information materials for your clinic/hospital
6. Assistance and patient guidance through helpline number
7. Quality counselling services for your TB patients
8. Assistance in Notification of TB patients
9. Nutritional and social support for your TB patients

REACH is a non profit organisation working for TB Control.  
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For more details on STCI refer [www.tbindia.org](http://www.tbindia.org)

## COUGH WITH CARE கவனமுடன் இருமவும்



KNCV TUBERCULOSIS FOUNDATION To eliminate TB



# Replicating the EQUIP Model

If you are interested in replicating the EQUIP model in other places, here is a brief guide to the steps involved in the process. Although these steps are described in a logical order, in many cases you may be doing a number of these steps at the same time.

## ***Step 1: Identify the interface agency to be the bridge between the national TB control program and private providers.***

As mentioned in this booklet, an organization that acts as the bridge between the national TB control program and the private sector is a key element to successful implementation of the EQUIP model. The interface agency serves in the following roles:

- ⌘ Overall coordination of partners
- ⌘ Mapping of providers and creation of database
- ⌘ Recruitment, training, ongoing engagement of providers
- ⌘ Recruitment and training of project staff
- ⌘ Support for procurement as needed
- ⌘ Early problem identification and problem-solving
- ⌘ Patient adherence support
- ⌘ Data collection and analysis
- ⌘ Reporting

The interface agency could be a local non-governmental organization, a professional association, a governmental body, or other entity—it will depend on your local circumstances. In general, it is desirable for that organization to have as many of the following characteristics as possible:

- ⌘ Familiar with and has credibility within the private provider community
- ⌘ Familiar with and has credibility with the NTP
- ⌘ Experience in TB
- ⌘ Experience in partner coordination and communication, meeting facilitation and documentation

- ⌘ Experience in patient-centred care
- ⌘ Experience in data management and analysis

## ***Step 2: Evaluate the local landscape.***

It is important to understand the stakeholders and how they operate in order to find the best avenues for collaboration between them. Make a quick assessment of the local NTP structures and how they function, what links already exist with the private sector, if any, and what entities (e.g., professional associations) or individuals within the private sector are influential. Map providers and create a database that includes name, address, contact information, and type of provider.

In addition, assess the needs of the TB patient community through group discussions and individual interviews. What providers are they accessing and why? What barriers have they faced in getting diagnosed and treated for TB? Use this information to help develop a patient-centred approach.

## ***Step 3: Identify and recruit advisory group members.***

As illustrated through this booklet, an advisory group can be instrumental in supporting the success of your project. It should include representatives from all the important stakeholder groups you identified in the previous step—the national TB control programme public-private mix focal point, other local government entities as appropriate, the leadership of professional associations (e.g., medical and nursing associations), influential individual private providers such as well-respected chest physicians, participating community-based organizations, and patients who can speak to the strengths and weaknesses of the system from their perspective.

The advisory group should have clear terms of reference (TOR) so their responsibilities are well-defined. Their TOR may include the following:

- ⌘ Advise on local adaptation of the EQUIP model
- ⌘ Facilitate connections with important stakeholders
- ⌘ Advocate for participation with colleagues
- ⌘ Review project progress regularly and provide support to resolve barriers

- ⌘ Promote project to key decision-makers

Establish a regular schedule of meetings for the group. You may need more meetings in the beginning of the project to address issues and questions that come up during implementation, and fewer meetings as the project becomes more established.

#### ***Step 4: Adapt the EQUIP model to your local circumstances.***

The EQUIP model was developed based on the specific needs and preferences of private providers, patients, and the NTP in Chennai. While many of the same needs will exist throughout India and in other countries, it is important to tailor the model to local realities. For instance, CB-NAAT (GeneXpert) machines may only be available in the public sector, or sputum transport may require different arrangements than were used in Chennai. It is critically important to work with your local stakeholders to design the most appropriate approaches to diagnosis and treatment in your local area. You can do so by conducting focus group discussions and in depth interviews with public sector program managers, private providers, and private patients and using those data to refine the model. Involve your advisory group in the process of finalizing the model you will use locally. They can help you make decisions about the following aspects of the project:

- ⌘ **Referrals:** how the referral process from private provider to diagnostic facility will be handled;
- ⌘ **Diagnostic testing:** what tests offered, where they will be offered, who will cover the costs of each, how transport of specimens/people will be arranged;
- ⌘ **Results reporting:** how results will be communicated back to providers and how cases will be recorded in Nikshay (or in other countries, the national TB data management system);
- ⌘ **Treatment:** acceptable treatment regimens, who will provide DOT, where drugs will be procured and who will cover the cost of drugs; and
- ⌘ **Ongoing monitoring:** how patients will be supported to complete treatment and by

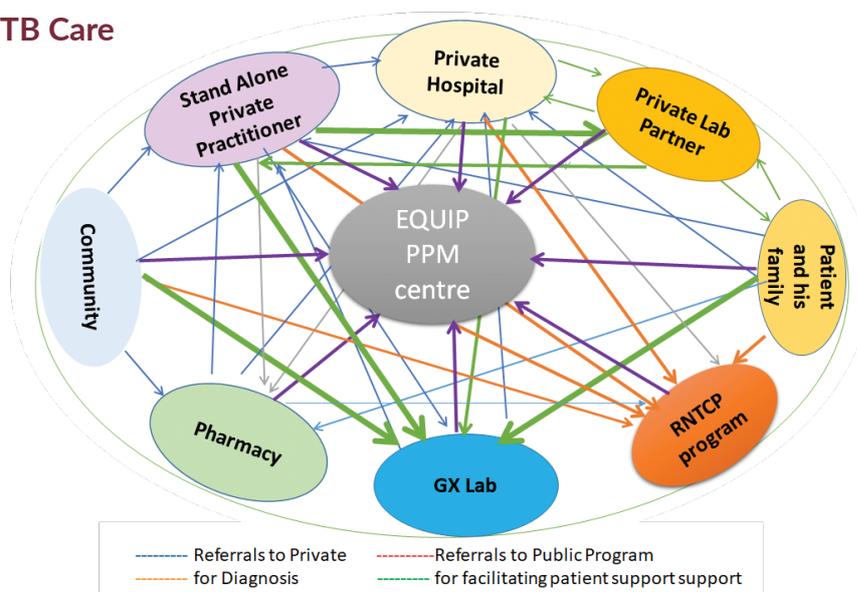
whom, what services will be provided (e.g., navigation of the health system, nutritional support), how data will be tracked, how final outcomes for private sector patients will be tracked.

In addition to adapting the model, you may want to consider linking it with a larger “branded” campaign. For instance, in Chennai, EQUIP has been linked with the TB free India campaign and more recently with the Zero TB Chennai initiative. Doing so may help increase the visibility and credibility of your efforts, and expand your network of supporters. It also provides benefits to participating providers by associating them with these larger efforts, and helping patients identify providers more easily.

#### ***Step 5: Target your efforts on key providers.***

There is a very wide range of private providers with whom you can engage, but with limited time and resources, it is important to focus on providers who will yield the best results in terms of additional cases notified and successfully treated. There is no one answer to which providers or groups of providers are the most important—that will depend on your local context and it will require some data gathering and analysis to define. In the beginning, consider the size of each group of providers you might engage with, and the volume and types of their patients. Key groups to consider include chest physicians, general practitioners, specialists who may see TB patients, pediatricians, alternative (AYUSH) practitioners, and unlicensed practitioners. Start with groups of providers who will likely see the greatest numbers of people with TB—in most cases, that will be chest physicians because they see so many people with TB symptoms, and general practitioners because they see such a large volume of patients. However, you will have to track the number of referrals from each group over time, the proportion of TB cases diagnosed from those referrals, and the successful treatment outcomes to assess whether your assumptions are correct. Being able to track yields by individual provider using a database will help you further refine your efforts, allowing you to focus on providers who are generating a high number of referrals and TB cases.

## Network for TB Care



### ***Step 6: Conduct outreach, orientation, and engagement activities with private providers.***

The process by which you reach out to private providers will affect how they react to the project—making it as easy as possible for them will likely increase participation. In the EQUIP model, the team used both group sessions and one-to-one visits to recruit providers for their network. While the face-to-face individual encounters were time-consuming, they worked the best with busy providers who are generated most of the cases, so it is worthwhile to consider this approach. There will always be a substantial drop-off between the number of providers approached and those who agree to participate in the model. A provider is not considered to be “engaged” until s/he refers at least one patient for diagnosis or treatment.

An orientation typically includes topics such as national guidelines related to TB (in the case of India, this is the Standards for TB Care in India – STCI), a description of the newest diagnostic technologies, instructions on accessing free drugs for patients and support for treatment adherence, and the process for notifying cases. Providers are given the necessary referral forms and patient education materials as well.

### ***Step 7: Continually engage and communicate with participating providers, give them feedback, and recognize their contributions to TB control.***

In general, private provider participation will drop off unless there is ongoing support and

encouragement from the interface agency and the NTP. There are numerous possible ways to continue engaging with participating providers. In Chennai, feedback included an SMS system, phone calls, and review meetings as well as a newsletter. These methods provided rapid communication of results, a sense of overall progress and contributions made by the private sector, and helpful information on the referral, diagnosis, and treatment process. As a result, EQUIP maintained a relatively high participation level.

It is also important to recognize and appreciate the extra efforts participating providers are going to—having an annual awards ceremony is a low-cost way to encourage ongoing participation.

### ***Step 8: Gather and analyze data to continually improve the performance of the model.***

There is always room for improvement in any process—it is important to use the data you generate to identify gaps and make corrections or improvements. An essential part of the EQUIP model was a database that allowed the team to track referrals and TB cases identified by individual provider. Being able to look at the data by individual provider can give the interface agency a level of detail that can help target outreach efforts going forward: it can help identify where there may be issues to resolve if providers are not referring and can identify “super-referrers” who are generating a high proportion of the overall cases. It can also help look at the data

by provider types (chest physicians, general practitioners, etc) to identify whether certain groups merit additional effort to increase case notifications.

The database also was able to track what diagnostic tests were ordered and which treatment regimens were prescribed by providers, allowing EQUIP to measure the quality of care being received by patients in the private sector. This is an essential element to ensuring high-quality care for patients.

It is important to have a mechanism for sharing the results of your analyses with the advisory group and participating providers, such as an annual workshop—it can help encourage ongoing participation and may also support behaviour change in groups that are performing less well than others. It will also help point to areas in the model that may need adjustment to optimize performance.

### ***Step 9: Ensure the sustainability of the model.***

In addition to the technical work involved in implementing the model, there is an important advocacy component to help ensure that the activities will be adopted as a standard part of the TB control program and continued beyond the project. You will need to plan for advocacy at the outset of the project, understand what your advocacy objectives are, and who your target audience for advocacy messages will be. Engage with them early on in the process to generate interest and political support for the model. Your advisory group should be helpful in these efforts.

Gather data and present it in an understandable and compelling way to support your requests to sustain the model. In doing so, you should consider possible changes needed in the following areas:

- ⌘ Policies that influence how the private sector interacts with the national TB control program, such as reimbursement schemes, reporting requirements, etc.
- ⌘ Funding: Asking for additional funds requires a specific plan—how much you will need, what the benefits of the increased investment will be, why it is needed, and what stake the decision-makers have in

supporting additional funds. Identify where potential ongoing funding can come from and engage potential funders early in the process.

- ⌘ Human resources: Additional staff or community volunteers are often used to implement public-private models. Consider how these individuals can be absorbed by the health system or retained in their roles through other funds on a continuing basis. Ideally, use existing staff and task shifting as needed to help ensure the sustainability of the model.
- ⌘ Equipment & supplies: Access to diagnostics and free anti-TB drugs are two key aspects of the EQUIP model. Access to a daily regimen was a very important factor in encouraging private provider participation—now that daily regimens are available from the national program in India, this will pose less of a barrier to participation. Ideally, diagnostics and drugs should be free or as low-cost as possible to patients, and this should be considered in planning the specific elements of the model locally, since circumstances will vary from region to region.

This is a brief summary of the hard work that went into making the EQUIP model a success. For more information and resources to support implementation, please contact REACH.

# The partners

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## **REACH**

REACH is a non-profit organization established in 1999. It has a broad mandate which includes support and care for TB patients, advocacy and social mobilization for TB control at the rural grassroots level, research, capacity building, training of different stakeholders, engaging with national and local media to improve and increase TB reporting, engaging with community volunteers, providing public education and communication. For close to two decades, REACH has been functioning as an interface between private practitioners and the RNTCP in Chennai Corporation.

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## **KNCV Tuberculosis Foundation**

KNCV Tuberculosis Foundation (KNCV) is one of the leading international players in TB control and a key partner of WHO, USAID, other donors and Ministries of Health. To achieve a world free of TB, KNCV strives for excellence in all areas, such as gaining comprehensive expertise and knowledge sharing on TB control. KNCV engages in a cyclical process of investigation, learning, improvement and implementation.

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## **Chennai Corporation**

Chennai is the fourth most populous metropolitan area in India, governed by the Chennai Corporation, with a strong public health structure with 140 Urban Primary Health Centres. Chennai Corporation is implementing the Revised National TB Control Programme (RNTCP). High quality diagnostic and treatment services are provided for TB management in the public sector. Corporation of Chennai, together with a wide-ranging partnership of public and private sector stakeholders is now spearheading an ambitious vision for a TB free Chennai.

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leading the fight against TB

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