



# **Champions of** **Creating Change**

**Enrolling Community Pharmacists in a  
National Tuberculosis Control Initiative**

the *Lilly*  
**MDR-TB**  
partnership





# Creating Champions of Change

**Enrolling Community Pharmacists in a National Tuberculosis Control Initiative**



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# Foreword

Tapping the vast resource pool of community pharmacists and drawing them into the National Tuberculosis Control Program as active partners has proven to be a very successful initiative. While public private partnerships (PPP) have yielded positive outcomes in a number of health campaigns, this is the first time that community pharmacists have been enrolled in a large-scale national program on a continuous and sustained basis. The results on the ground have been motivating enough for other state governments to consider replication.

The Lilly MDR-TB Partnership was created in 2003 to address the global threat of multidrug-resistant tuberculosis (MDR-TB). Since then, collaborations have been entered into with more than 25 global partners and more than 40 national partners to confront the medical, social and economic challenges posed by the disease. Now, funded by the Eli Lilly and Company Foundation, the Lilly MDR-TB Partnership brings together government leaders, global health organizations, country-level healthcare providers, community and advocacy organizations and other stakeholders to improve MDR-TB treatment outcomes, increase availability of quality-assured medicine, enhance education for healthcare professionals where the need is greatest and raise awareness of the disease amongst communities most at risk. The partnership focuses on the four countries with the highest burden of MDR-TB, namely China, India, Russia and South Africa.

Following an operational framework, the Lilly MDR-TB Partnership works on aspects related to researching, reporting and advocating to ensure that programs have the greatest reach and impact. Using this framework, the partnership identifies, documents and advocates for the replication and scale-up of best practices that directly improve people's lives, and in the process, help determine approaches that work best. The TB Pharmacists TB project was one of the pilot efforts supported by Lilly.

The Revised National Control Program on Tuberculosis (RNTCP) partnered with more than 75,000 pharmacists across the four states of Maharashtra, West Bengal, Andhra Pradesh and Tamil Nadu to expand provision of Directly Observed Treatment Short Course (DOTS) services. The partnership helped improve quality and reach of DOTS and reduce the number of TB patients being treated outside the DOTS strategy. The project focused on creating awareness about TB and monitoring the treatment given to TB patients in order to improve adherence.

Based on extensive desk research and field visits to the four project states, an independent agency evaluated the program. Interactions with pharmacists, government officials, partners and officials of Lilly and their feedback and inputs helped shape this advocacy document. The primary objective was to capture the essence of the program, its rationale, usefulness and impact as a cost effective and sustainable option that can be strengthened and built upon to further Millennium Development

Goals (MDGs) related to TB as also health programs such as Human Immunodeficiency Virus (HIV), malaria and leprosy.

Divided into five sections, the document reviews the programs from 2005 to 2013, first with a background through the pilot programs and activities in what was a first structured effort to engage directly with pharmacists in the National TB Control Program. This is followed by an account that presents glimpses from the initiative's roll-out in each of the project states, highlighting their unique features and outcomes. Sections on challenges and lessons learnt and achievements draw attention to specific aspects of the program, while recommendations have been culled out based on feedback from stakeholders during field visits and analysis of reporting formats/ documents.

This pharmacist-based model indeed has potential to further strengthen the TB control program and serve as a precious link/ resource in the overall healthcare delivery process.

# Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
AIOCD	All India Organization of Chemists & Druggists
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
ATT	Anti TB Therapy
AWW	<i>Anganwadi</i> Workers
BCC	Behavior Change Communication
CHC	Community Health Center
CII	Confederation of Indian Industry
CP	Community Pharmacist
CPA	Commonwealth Pharmacists Association
CTD	Central TB Division
CPD	Community Pharmacy Division
DMC	District Medical Center
DOTS	Directly Observed Treatment Short Course
DTCO	District TB Control Officer
FDA	Food and Drug
FIP	International Pharmaceutical Federation
GFATM	Global Fund to fight AIDS, TB, and Malaria
GLC	Green Light Committee
HIV	Human Immunodeficiency Virus
IEC	Information, Education and Communication
IMA	Indian Medical Association
IPA	Indian Pharmaceutical Association
IPSF	International Pharmaceutical Students' Federation
MDG	Millenium Development Goal
MDR TB	Multi Drug Resistant Tuberculosis

MIS	Management
MSCDA	Maharashtra State Chemists and Druggists Association
MoU	Memorandum of Understanding
PC	Project Coordinators
PCI	Pharmacy Council of India
PHC	Primary Health Center
PPP	Public Private Partnerships
RHCP	Rural Healthcare Providers
RMP	Rural Medical Practitioners
RNTCP	Revised National Control Program on Tuberculosis
STLS	Senior Tuberculosis Laboratory Supervisor
TB	Tuberculosis
TU	TB Unit
WHO	World Health Organization

# Executive Summary

Advances in medical science notwithstanding, one in every three tuberculosis cases in the world still goes undetected, as per estimates released by World Health Organization. India leads in the number of TB cases in the world, with an estimated 1.8 million new cases detected every year. With the highest number of people with multi-drug-resistant TB (MDR-TB), the disease has a crippling effect on the country's social and economic development, with millions of workdays lost due to illness.

The country's Revised National Tuberculosis Control Programme (RNTCP), based on the DOTS strategy, began as a pilot in 1993 and was launched as a national programme in 1997. By December 2005, around 97% (about 1 billion) of the population was covered, and by 2006, entire country brought under DOTS. With rapid expansion in diagnostic facilities, proportion of sputum-positive cases confirmed in the laboratory brought the country's performance at par with global standards. However, much ground still needs to be covered in ensuring timely diagnosis, treatment, availability of drugs and adherence to treatment. Why some are still outside the TB treatment ambit are due to gaps and inadequate regimens in providers/programmes, inadequate supply, poor quality of drugs, loss to follow-up lack of awareness and millions of missing patients not aware of their TB status.

## RNTCP embarks on novel initiative: Involves pharmacists in TB care and control

To make the goal of universal access a reality, RNTCP forged stronger links with private sector. In India, community pharmacists have been frontline healthcare providers, serving as first point of contact with patients. With over 850,000 pharmacies in the country this is a huge resource pool that can be tapped to strengthen national TB goals. They are from the community and are familiar with residents. They are available for long hours and have a fixed location where they can be contacted anytime. Recognising the huge potential they have in changing behaviours, attitudes and habits of their clientele, they were drawn into the programme. Their role comprised mainly of detecting chest symptomatic cases and making referrals to nearby designated microscopy centres; undertaking patient counselling and education; conducting community awareness on TB and drug-resistant TB; administer DOTS medication and ensuring rational use of antibiotics.

## Initially launched on pilot basis

The Indian Pharmaceutical Association (IPA) initiated systematic efforts to involve community pharmacists in TB care and control in 2005-06 through the TB Fact Card Project in Mumbai. It was one of the first efforts to involve pharmacists in the fight against TB with support from Commonwealth Pharmacists Association (CPA) and International Pharmaceutical Students'

Federation (IPSF). Implemented by the International Pharmaceutical Federation (FIP), SEARPharm Forum & IPA and supported by Maharashtra State Chemists Druggists Association District TB Control Societies, more than 150 pharmacists were trained in Mumbai<sup>1</sup> alone.-

After successful pilots in 2006-09, a scaled-up collaborative programme - “DOTS TB Pharmacists Project” was launched in Mumbai in February, 2010. Partnering with IPA were FIP, SEARPharm Forum, Maharashtra State Chemist and Druggists Association (MSCDA) and the Lilly MDR-TB Partnership. IPA initiated the PPP, drawing in key stakeholders, pharmacists, chemists associations and government TB authorities. The initiative was supported by the Lilly MDR-TB Partnership. As an outcome of this project, post 2006, IPA developed and refined the PPP model by engaging pharmacies in RNCTP with the help of chemist associations and district TB control offices in Mumbai and adjoining areas. Since 2010, the PPP was supported for up scaling by FIP, SEARPharm Forum and IPA and the Lilly MDR-TB Partnership and about 150 pharmacists were trained in Mumbai with thousands of others generating interest. The Maharashtra model provided direction to subsequent efforts encouraging others states to follow suit.

## States replicate the programme

Enthused by Maharashtra’s success, four states implemented the programme in select districts with much success.

**Maharashtra:** After “DOTS TB Pharmacists Project” was launched in Mumbai in 2010, a follow-up initiative was implemented in Mumbai, Thane, Nagpur and Bhayander in partnership with IPA, FIP, SEARPharm Forum and Maharashtra State Chemist Association (MSCDA) and supported by the Lilly MDR-TB Partnership. A special training tool kit was developed and a short documentary on work done by pharmacists was released for advocacy and awareness generation. Colourful leaflets in four languages reached more than 10,000 people.

Key results:

- 350 pharmacists trained as of 2012
- 102 DOTS provider pharmacists trained as of 2011 to deliver DOTS services
- More than 400 patients treated and 200 referred as of 2012
- Case detection in Mumbai alone increased from 16-30%

**Andhra Pradesh:** The project was implemented in Adilabad, Karimnagar, Warangal and Nizamabad in partnership with TB Alert. Project districts were first mapped and then pharmacists along with Registered Medical Practitioners (RMP) were trained and their capacities built. This was the only state where RMPs and pharmacists were trained in formal and informal health settings. Awareness activities were conducted by chemists, RMPs and local associations. Unique code and reference books were given to chemists who were part of the campaign. Systematic

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<sup>1</sup> Lilly MDR-TB brochure

information sharing every few months helped pharmacists better their skills. Seeing the high level of interest and activity, the District TB Control Officer (DTCO) and Drug Control Authority acknowledged best performing pharmacists which further boosted their confidence and brought more pharmacists into the project.

Key results:

- 1,000 pharmacists sensitised and about 320 trained and enrolled in the programme
- 100 RMPs became active, reaching 727 TB symptomatic people of which 608 were sent for testing to government hospitals. Of them, 101 were diagnosed with TB
- 16 RMPS acting as DOTS providers
- 1,400 referrals tested out of total cases of 17,168 from February 2013 to January 2014
- 2,364 cases diagnosed with TB and among them 190 diagnosed with TB from referrals made by the project

**West Bengal:** The project was implemented in 10 TB units in the districts of Howrah (4) and Bardhaman (6) in partnership with Care India. A first-of-its-kind initiative in the state, the pilot is supported by the State TB Cell since inception and working closely with the Bengal Chemist and Druggist Association at state and district levels. A pharmacist module developed by RNTCP was translated in the local language for use in capacity building sessions. Set of pre- and post-test questionnaires were developed and responses sought from pharmacists who were trained under the project. A register was also developed to enable community pharmacists to keep track of notification and referral activities.

Key results:

- 226 community pharmacists trained in close coordination with DTOs as of 2013
- Of the 226 community pharmacists sensitised, 60 contribute regularly through referrals and notifications
- 183 suspects referred of which 93 visited designated microscopy labs, 78 underwent sputum test and 19 detected with TB
- 147 people taking TB treatment in private sector notified

**Tamil Nadu:** The project was implemented in Chennai and Thanjavur in partnership with REACH. A baseline survey amongst registered pharmacists who were members of local pharmacists association preceded roll-out of the programme. The evidence generated assessment of behaviours, attitudes, knowledge and practices of pharmacists, service providers and general population. Based on findings, a range of creative and handy communication materials were developed and field tested. Structured training modules were designed in the local language comprising information on TB, control, prevention and treatment. A list of resources was developed with compilation of information in a directory that listed microscopy centres and contact details of key staff in RNTCP programme. Unique referral slips were used as an innovative and effective referral mechanism and a Letter of Commitment was given to well performing pharmacists. A TB helpline was activated

to help people reach and access information. All these efforts created a pro-TB atmosphere with awareness levels going up.

Key results:

- 1,530 pharmacies in Chennai and 872 in Thanjavur enlisted of which 350 pharmacists trained
- 184 referrals received of which 75 diagnosed with TB as of end 2013
- Out of 36 TB patients referral made by pharmacist, 23 were started on RNTCP treatment and remaining continued with private treatment
- About 20 pharmacists work as DOTS providers

## What led to the success of the programmes?

On programmatic and technical fronts the programme recorded numerous successes. The very design of the programme was engineered for impact. High spirit of volunteerism and motivation on part of pharmacists and RMPs ensured their work in the community continued unabated. In many places pharmacists went on record to say that their stature in the community had gone up since they were now acknowledged as healthcare providers. Many got greater exposure at national and international levels, sharing their success stories on larger platforms.

*In many places pharmacists went on record to say that their stature in the community had gone up since they were now acknowledged as healthcare providers.*

The programme emerged as an example of a strong public private partnership initiative bringing together large number of NGOs, government and private bodies to increase reach, referrals and impact. The involvement of project coordinators proved to be a good decision since they served as a valuable link between pharmacist and ground staff, providing quick solutions and support, when needed. Few states initiated novel methods, like in Andhra Pradesh, block associations were mapped providing valuable insights. Partnering with pharmacists associations expanded reach of volunteers in the programme. All these efforts went a long way in reducing stigma, creating dialogue around TB and reducing ‘missing’ numbers in TB treatment and care.

## Challenges and bottlenecks

A programme of this scale required coordinated efforts of multiple sectors and hierarchies and had its share of glitches, some of which were overcome and others dealt with in a positive way.

Programme related	Social, cultural, environment related
Support from all quarters yet to flow in	Behaviour change, slow in coming
Data collation and validation not uniform	Chemists are business oriented and not always motivated to promote RNTCP
Under reporting still an issue	Few qualified pharmacists in rural areas
Conducting bi-annual meetings a challenge	Stigma associated with taking DOTS from local pharmacists
Frequency of releasing DOTS register not done smoothly	Scope of involving pharmacists as DOTS/ Flexi DOTS provider limited
Referral slips not used in all cases	
In some states Drug Regulating Authorities not willing to allow Patient Wise Boxes for TB patients on treatment to be stocked at chemists shops.	

## Suggested recommendations for greater sustainable impact

- Enrol more pharmacists in the programme
- Address under reporting of TB cases and success of every missing case/drop-out that has been resolved
- Encourage greater cross learning within states
- Strengthen role of Drug Control Authority and help address issues related to availability of drugs at pharmacies and healthcare centres, based on feedback from pharmacists
- Explore possibility of including RMPs and increase case detection and treatment
- Establish greater engagement with pharmacists associations
- Continue with awareness generation to dispel myths and reduce stigma
- Create a culture of health seeking behaviour

## What the programme achieved and what lies ahead.....

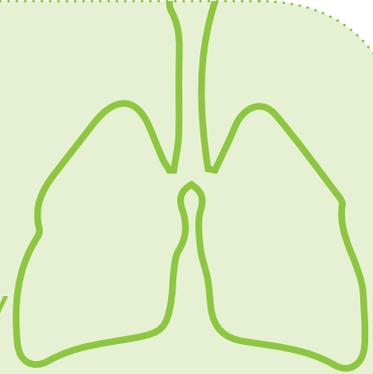
The record reach of more than 7,000 pharmacists, who have in the last two years supervised, treated and cured 400 patients at DOTS pharmacies, only likely to see further exponential rise. An encouraging 10-15 percent of cases referred by them have been found positive and placed on treatment.

The Lilly MDR-TB Partnership, by involving pharmacists in a structured and organised government programme, emerged as the first programme that has shown encouraging results. Bringing together local NGOs, pharmacist associations and government officials at state and district level created a strong framework which can only grow.

Going forward, it will continue to create a sustainable option as it joins hands with RNTCP to achieve goals of the National Strategic Plan, for the period 2012 – 2017, which has as its objective, the commitment of ensuring ‘universal access’ for quality diagnosis and treatment for all TB patients in the community. In the coming years as such efforts gain momentum, retail pharmacies will emerge as a significant and innovative partners in RNTCP.

# 1. Introduction

*A unique tuberculosis control and prevention program that involves community-based pharmacists in four states has emerged as an effective, sustainable and highly innovative intervention. As it gets scaled up, it will ease early case detection and reach the missing millions.*



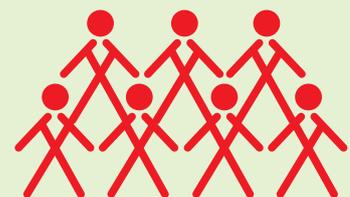
*RNTCP recognises implementation of a good quality DOTS program as the first priority for TB control in the country*

## **Landmark decisions in TB treatment/control**

- 1st WHO endorsed DOTS-Plus program launched in 2000
- Green Light Committee established to promote access to high quality 2nd line drugs
- Feasibility/ effectiveness of MDR-TB treatment established in less affluent nations through DOTS-Plus pilot programs
- Global Fund to fight AIDS, Tuberculosis, and Malaria (GFATM) launched to finance TB control programs, including MDR-TB, reducing economic barrier to MDR-TB control in 2002
- By the end of 2007, 67 projects in 52 countries approved by Green Light Committee GLC and over 30,000 MDR-TB patients received financial support



*Every year, nearly*  
**1.3 million**  
*people die from*  
**tuberculosis**



## 1.1 Why the scourge of TB continues to claim human lives

Every year, nearly 1.3 million people die from tuberculosis<sup>1</sup> (TB), which is a curable disease. Poor adherence to necessary drug regimens and interrupted treatment are widespread issues in resource-constrained countries. These problems not only keep patients from being cured of the disease but also lead to multi-drug resistant (MDR) strains of TB, which require even longer and more complex treatment.

Conservative estimates indicate that about 500,000 new cases of MDR-TB are detected every year. The epidemic calls for massive mobilization of people and resources. The World Health Organization (WHO) defines MDR-TB as resistance to at least two first line anti-TB medicines. This type of TB often develops in patients who do not properly adhere to treatment for regular TB, fail first-line treatment or contract the disease unknowingly.



*Nearly  
1.9 to 2.0 million  
new TB cases  
are detected every  
year in India*

## 1.2 How do we fare in India

Nearly 1.9 to 2.0 million new TB cases are detected every year in India, with over 1,100,000 cases of drug resistance. This makes India a country with the highest incidence of TB in the world, accounting for nearly one-fifth of global incidence<sup>2</sup>. Nearly two people succumb to TB every three minutes, a staggering number that continues to worry governments, program managers and disease experts. More unfortunate is the fact that these deaths are highly avoidable.

Social and economic burden of TB continues to be high with indirect cost to society estimated at a staggering US\$3 billion. The Revised National TB Control Program or RNTCP provides free diagnosis and anti-TB medicines,

<sup>1</sup><http://www.who.int/mediacentre/factsheets/fs104/en/>

<sup>2</sup>Global Tuberculosis Report 2012, WHO

known as Directly Observed Treatment, Short Course (DOTS). This lasts for the complete treatment duration (a minimum of 6 to 8 months or longer) under direct supervision. The patient must visit a TB clinic thrice a week, in the first couple of months (intensive phase) and then once a week during the continuation phase. With DOTS, there is a high likelihood of reducing chances of developing drug resistant TB. The success of the program can be gauged by the fact that the entire country is now covered through a multitude of DOTS providers and healthcare practitioners.

The challenge is in people accessing available treatment and adhering to it until recovery. Also, emergence of resistance to drugs used to treat TB, especially MDR-TB has become a significant public health problem in a number of countries and a stumbling block in the effective control and management of TB. In India, available information from several drug resistance surveillance studies suggest that although the percentage of MDR-TB is relatively low in the country, when translated in absolute numbers, it stands at an astounding 131,000 cases.

### 1.3 Chronic bottlenecks and issues of concern<sup>3</sup>

Resistance levels are found to be higher in areas where DOTS programs are not performing optimally. Use of inadequate regimens and inappropriate DOTS leads to increase in drug resistance levels. Under the expanded framework of the DOTS package is the provision of DOTS-Plus for management of MDR-TB, offered as a supplementary service. Therefore, in every DOTS implementing unit, DOTS is prioritized above DOTS-Plus with the rationale that it reduces emergence of MDR-TB, and therefore, the need for DOTS Plus.

Drug-resistant TB has microbial, clinical and programmatic causes. From a microbiological perspective, resistance is caused by a genetic mutation that makes a drug ineffective against mutant bacilli. An inadequate or poorly administered

<sup>3</sup><http://www.tbfacts.org/tb-statistics.html>





*Gaps and inadequate regimens in providers/ programmes*

*Inadequate supply and poor quality of drugs*

*Loss to follow-up or lack of awareness*

### **Why it's a good decision to involve pharmacists in TB control**

- Conveniently located within the community
- Open for long hours with fixed dependable timings
- Usually run by a family who has for years been in the area. Therefore, the person at the counter is likely to be familiar with the client
- Pharmacist/ owner is usually educated, has a pharmacy degree and can talk on medical conditions
- Although the customer-pharmacist relationship is transactional, there is trust and faith in the relationship

treatment regimen allows drug-resistant mutants to become the dominant strain in a patient infected with TB. However, it is poor treatment/ drugs/ adherence that leads to a scenario where incidence of MDR-TB is high. Broadly, causes of inadequate treatment are:

***Gaps and inadequate regimens in providers/ programmes:*** Absence or inappropriate use of guidelines and non-compliance, inadequate training of health staff, little/ no monitoring of treatment schedules, poorly organized and funded TB control programs.

***Inadequate supply and poor quality of drugs:*** Non-availability of certain drugs, poor quality and storage conditions, wrong dosage or combination of drug administration.

***Loss to follow-up or lack of awareness:*** Poor adherence to treatment, lack of information, non-availability of free drugs, especially in the private sector, adverse reaction to drug regimens, social and economic barriers, stigma, mal-absorption and substance abuse.

***Missing millions and role of private sector:*** Missing patients are getting treated but either inappropriately or sub-optimally. The private sector's role is crucial in finding them.

## **1.4 Drawing private practitioners into the National TB Control Program**

Although RNTCP notifies and treats about 70 percent of all estimated TB cases, many notifications are delayed or not sent out. To make the goal of universal access a reality, the government-driven RNTCP has forged stronger links with the private sector. The primary goal of such a partnership is to ensure universal access to TB care and control by pooling different competencies, skill sets and resources. In a diverse and complex country like India, different population groups follow different religious and traditional practices, harboring customs that in many ways

affect their health seeking behaviors, which are often steeped in bias and stigma, making it imperative to engage with different partners who use different strategies to make a ‘health connect’.

Specific measures are being taken within RNTCP to address MDR-TB through appropriate management of patients and strategies to prevent propagation and dissemination of MDR-TB. The highest priority should be to improve quality, reach of DOTS services and reduce incidence of resistant TB. Specifically, RNTCP has made a conscious decision to forge several public-private partnerships (PPP) to expand provision of DOTS.

## 1.5 Partnering with community pharmacists: a novel and fresh approach to make India TB-free

Pharmacists in India have traditionally commanded respect of their clients and communities. They are approached with trust and faith by people of all age groups, who request them to prescribe medicines for minor ailments. It is common to see a person walk into a pharmacy, cite the problems he is facing and buy the medicine over the counter, as advised by the pharmacist. They often keep the pharmacist posted on their medical condition, and in the event of their problem persisting, request for a change in medication. At this stage, if the pharmacist makes an appropriate referral to a health center, the person usually complies and makes the visit.

In India, community pharmacists have been frontline healthcare providers who are usually the first point of contact with patients. There are over 8,50,000 pharmacies in the country but despite of their large numbers, they have not been involved in many national health programs, including RNTCP. Given the huge potential they have in changing behaviors, attitudes and habits of their clientele, little organized effort has been seen to involve them and their potential has therefore, remained untapped.

### Building a case for Public Private Partnership

- Prioritizing the goal of improving quality/reach of DOTS services
- Reducing the number of TB patients being treated outside DOTS strategy and reducing the incidence of MDR-TB

This realization triggered an initiative that involved them in a dedicated DOTS program to expand reach and access for TB diagnosis and treatment. By providing them training they were converted into active health workers, who created awareness on TB, helped in early case detection/ referral and acted as DOTS providers, serving as an important link in the TB treatment cycle.

### **Early efforts: Mumbai's community-based pharmacist project sets an example**

The government's TB control program uses DOTS to supervise the treatment given to patients. However an estimated 50-60 percent of TB patients access treatment through the private healthcare delivery model where pharmacists play a key role. The Indian Pharmaceutical Association (IPA) initiated systematic efforts to involve community pharmacists in TB care and control in 2005-06 through the TB Fact Card Project in Mumbai. It was one of the first efforts to involve pharmacists in the fight against TB with support from the Commonwealth Pharmacists Association (CPA) and the International Pharmaceutical Students' Federation (IPSF).

The project focused on creating awareness of TB and monitoring of the treatment given to TB patients in order to improve adherence. Many participant pharmacists took active interest and performed well. This gave confidence to the project leaders who could see potential in the pharmacist-centric model being given further shape and strategic direction.

Pharmacists were engaged in TB control for mainstream TB diagnosis and treatment in Mumbai/ Maharashtra and they worked closely with the IPA Community Pharmacy Division (IPA CPD). Implemented by the International Pharmaceutical Federation (FIP), SEARPharm Forum & IPA and supported by the Maharashtra State Chemist Druggists Association District TB Control Societies, more than 150 pharmacists were trained in Mumbai alone.

The project focused on building awareness of TB in the community through retail pharmacies. During the TB Fact Card project, IPA saw potential in the model that allowed pharmacies to increase outreach of free anti-TB medicines and to improve case detection rates.

IPA realized that there have been practically no PPP in RNTCP involving pharmacies. In 2006, it initiated the process of meeting all stakeholders including the state TB office, Food and Drug Administration (FDA), chemist associations and pharmacists. They were convinced of the untapped potential that existed. The IPA, thereafter, took it up as a mission to engage pharmacies in RNTCP, building a strong case that could lead to a PPP model which could create and strengthen a formal pharmacist-centric model for DOTS provision. There were successful pilot programs during 2006 to 2009 and the PPP was also discussed in several pharmacy and other conferences – both internationally and nationally.

After successful pilot programs in 2006-09, a scaled-up collaborative program - the “DOTS TB Pharmacists’ Project” was launched in Mumbai in February, 2010. Partnering with IPA were the FIP, SEARPharm Forum, Maharashtra State Chemists and Druggists Association (MSCDA) and the Lilly MDR-TB Partnership. The State TB Office and Maharashtra Food and Drug Administration were kept informed and necessary permissions obtained.

## 1.5 Sowing the seeds of a productive partnership: Lilly engages pharmacists in national TB control efforts

The Lilly MDR-TB Partnership helps create programs that ensure people follow the right treatment protocols, empowering them by eliminating stigma within the community and workplace. The Lilly Partnership<sup>4</sup> comprises of 18 public and private partners supporting a comprehensive, multi-pronged strategy. Working primarily in the four countries most burdened by MDR-TB, including China, India, South Africa and Russia,

<sup>4</sup>The Eli Lilly and Company Foundation is a tax-exempt private foundation established by Lilly in 1968. The foundation awards cash grants for philanthropic initiatives aligned with Lilly’s corporate responsibility priorities



it promotes community support and patient advocacy, implements MDR-TB healthcare treatment and training programs and strengthens surveillance of drug resistance, transfers Lilly drug-manufacturing technology to local pharmaceutical companies and supplies medicines at concessionary prices, conducts research for new drug discovery and works with policymakers to raise awareness and prevent the spread of MDR-TB.

In 2003, Lilly launched a multipronged philanthropic program to fight MDR-TB, involving private and public healthcare professionals, academia, international organizations and producers of medicines in developing regions around the world. In addition to institutions like Indian Medical Association (IMA), NGOs and other industry associations, Lilly collaborated with RNTCP to assist in implementing the DOTS Plus Program. Media houses were also brought in to produce advocacy campaigns to inform decision/ policy makers.

## 2. Successful Pilot Programs Lead to National Scale-Up

*Testing waters through a pilot model in Mumbai confirmed the program managers' belief that they had a winning proposition at hand. The huge potential of pharmacists in TB care and control could be leveraged through a well structured program that could be successfully scaled-up for the rest of the country.*

In 2004, the IPA-CPD joined hands with IPA/ CPA/ IPSFs to work in Mumbai as a first organized attempt to engage pharmacists in TB control through the TB Fact Card Project. As an outcome of this project, post 2006, IPA developed and refined the PPP model by engaging pharmacies in RNCTP with the help of chemists' associations and district TB control offices in Mumbai and adjoining areas. Since 2010, this PPP was supported for upscaling by FIP, SEARPharm Forum and IPA and the Lilly MDR-TB Partnership. As many as 150 pharmacists were trained in Mumbai and the effort generated interest from thousands more.

### **Pilot initiatives serve as baby steps**

Focusing on building awareness on TB within the community through a network of retail pharmacies, IPA saw merit in getting pharmacists to expand outreach services by contributing to improving case detection and providing free anti-TB medicines. IPA initiated the PPP, drawing in key stakeholders, pharmacists, chemists associations and government TB authorities.

The FIP-WHO Joint Statement on the Role of Pharmacists in TB Care and Control was signed in September, 2011 at the FIP Congress in Hyderabad, which further cemented these advocacy initiatives.

### What were pharmacists supposed to do?

- Detect chest symptomatic cases and make referrals to nearby Designated Microscopy Centers
- Undertake patient counselling and education
- Conduct community awareness on TB & Drug Resistant TB
- Administer DOTS medication
- Ensure a rational use of antibiotics

*The IPA's role served as a catalyst or change agent who proved instrumental in providing a valuable link between clients, TB managers and DOTS providers.*

To this was added the memorandum of understanding (MoU) of April 2012, duly signed between the Central TB Division (CTD), IPA, the All India Organization of Chemists & Druggists (AIOCD) and SEARPharm Forum and Pharmacy Council of India (PCI). This was a historic development wherein pharmacists left an indelible mark, hitherto unseen in any national health program. The formal arrangement specified roles and responsibilities as well as expected outcomes and some of the key decisions that were taken included:

- Implementing the model - first in three states and later, across the country in a phased manner
- Constituting a National Core Committee that would periodically review pharmacists' participation in RNTCP
- Entering into an MoU that would clearly outline the role of each partner and the process to be followed for implementation
- Inviting/facilitating visits of international organizations to Mumbai to observe and learn from pharmacists who had been involved in the national TB control program
- Evaluating the model before replicating in states/nations with a high TB burden

## 2.1 Inducting pharmacists into the program and building their capacities

The Maharashtra model provided guidance and direction to subsequent efforts. A blueprint had been developed and adapted to suit the specific scenarios of different states. Depending on vulnerabilities of target groups (migrant populations, communities living in distant locations, illiterate and uninformed groups and marginalized sections), pharmacists were trained to address their issues of concern.

Selected on the basis of references given by local pharmacists' associations, the concept was promoted and publicized through several pharma bulletins, pharmacy training programs and a direct approach where interested

pharmacists were enrolled. They were explained their role and told how they would benefit from the activity, even if they were not financially compensated.

Print media (local and national) was extremely supportive, providing ample coverage of the initiative and some of its results, highlighting the plus points of the initiative and the novelty of the approach. This helped strengthen the concept of PPP amongst the general population and the main stakeholders of the project.

### Workshop on “Pharmacies in RNTCP”

IPA organised a two-day workshop in association with the Central TB Division of the Ministry of Health in February, 2012. The impact made by pharmacists was shared with policy makers and National TB Program managers. DOTS providers, pharmacists, TB officers, WHO RNTCP Consultants and members of chemists’ associations shared their experiences. IPA presented a roadmap for a national scale-up. NGOs (PATH and REACH) shared their experiences of working with pharmacists, while presentations and experience-sharing made a strong case for pharmacists in RNTCP. As a result of our work, the RNTCP made a policy announcement, making it mandatory to include pharmacies in the national TB program.

### Training and capacity building, a vital element in grooming pharmacists

Capacity building, skill enhancement and engagement helped community pharmacists transition from being ‘drug vendors’ to skilful human health resources. To address the growing incidence of TB and drug resistant TB in the country, Ministry of Health, in association with IPA, developed a training module that was relevant for community pharmacists and trainers. The training module for community pharmacists under RNTCP was released in February, 2013 providing detailed information on the global and Indian TB scenario to enable pharmacists understand the basics of TB. It was released by the Director General of Health Services, Dr. Jagdish Prasad

*The program focused on positioning the pharmacist as a friendly TB counsellor within the community, generating awareness on TB, strengthening identification and referral of TB suspects, enhancing DOTS provision, recording, reporting and promoting the rational use of anti-TB drugs.*

*As a result of our work, the RNTCP made a policy announcement, making it mandatory to include pharmacies in the national TB program.*

*“The module is developed by experts from CTD and IPA post research and analysis. It aims to push the bar where pharmacists are concerned and get them to be more sensitized and trained on aspects that ensure TB control. It focuses on training them to identify and refer TB suspects for early diagnosis and treatment to prevent further spread of infection. Pharmacists are trained to provide free anti-TB medicines under RNTCP, counsel patients for creating community awareness on TB/ DOTS.”*

*Manjiri Gharat, Vice President and Chairperson, Community Pharmacy Division, IPA*

and uploaded to the website - [www.tbcindia.nic.in/](http://www.tbcindia.nic.in/). Thereafter, the module was rolled-out, establishing a strong pharmacist partnership with IPA, AIOCD and NGOs and the Lilly MDR-TB Partnership supported by the Eli Lilly and Company Foundation.

### **Pharmacists' intervention ensures that patients adhere to treatment**

A pharmacist in Mulund, Mumbai displayed a board outside his pharmacy offering free anti-TB medicines (DOTS). The very next day, a patient approached him. He had recently been diagnosed with TB by a private practitioner and had already paid a hefty amount for his treatment. He confided that he was poor, and therefore, unlikely to complete the full course of treatment. After interacting with the pharmacist and getting information on how he could avail of the free treatment, he returned to the earlier physician telling him that he wished to switch to DOTS. Thereafter, he went to the nearby Corporation Hospital as guided by the pharmacist. Here, his diagnosis was confirmed and DOTS treatment started. He went on to complete his treatment under supervision of the pharmacist without draining his purse. He was extremely grateful for the timely advice, help and handholding.

# 3. Focused Approaches Mark State Implementation

The Partnership’s training programs reached pharmacists, nurses, rural healthcare providers, and private practitioners in several states, including Andhra Pradesh, Maharashtra, Tamil Nadu and West Bengal. The Maharashtra model’s initial success through a pilot program served as the basis for expansion, with the knowledge that it was a sound and scalable strategy to improve case detection, treatment adherence and awareness of TB, especially in districts with high incidence. By partnering with active NGOs, a strong basis for a sustainable plan was developed.

State	Project Districts	Implementing NGO
Maharashtra	Mumbai, Thane, Nagpur, Bhayander	IPA
Andhra Pradesh	Adilabad, Karimnagar, Warangal and Nizamabad	TB Alert
Tamil Nadu	Chennai and Thanjavur	REACH
West Bengal	Bardhaman and Howrah	Care India

The government’s TB control program uses DOTS to supervise the treatment of patients. However an estimated 50-60 percent of TB patients access treatment through the private healthcare delivery model, where pharmacists play a key role. With an objective to engage these pharmacists in TB control and also to bring them into the mainstream of TB diagnosis and treatment, the states of Maharashtra, West Bengal, Andhra Pradesh and Tamil Nadu initiated the project in 2010. These are ongoing efforts showing tremendous improvement in results, including trebling levels of detection, treatment and referrals in most of the project sites.

The program’s main focus is to explore the role of community pharmacists by training them to deliver best TB care and control



services. Content for the training module was released in mid February, 2013 and was similar to the RNTCP training module for multi-purpose workers but was modified and adapted to suit the needs of practicing pharmacists in the project sites. The project is expected to roll-out to other states subsequently.

### 3.1 Maharashtra leads by scaling-up the 'First Card Project' across Mumbai



After the “DOTS TB Pharmacists’ Project” was launched in Mumbai in 2010, a follow-up initiative was taken up with even greater conviction, planning and scope. Partnering with IPA in this initiative were FIP, SEARPharm Forum and MSCDA. The project was supported by the Lilly MDR-TB Partnership for which all requisite permissions, including one with the State TB office and the Maharashtra Food and Drug Administration was obtained.

#### Specific Objectives

- To use the training module that was finalized during the pilot project and record feedback from different pharmacists
- To increase the number of pharmacists engaged in the project
- To track progress between the phase when the pilots were organized and when the scaled-up initiative was implemented in 2010

Presently, IPA is working with eight city corporations in Maharashtra and has more than 350 pharmacists engaged in Mumbai region and other parts of Maharashtra. Pharmacists are actively referring TB suspects to nearby designated microscopy centers and have contributed in pushing up the case detection rate (finding positive TB cases) among referred cases in between. RNTCP field staff regularly visits pharmacies and oversees the manner in which pharmacists develop rapport with clients. Patient feedback is taken to assess their response to the program. The program has succeeded in strengthening all linkages to ensure treatment adherence, which in turn has boosted client confidence.

#### Making a Difference

- A special training tool kit developed by IPA along with a short documentary on the work done by pharmacists proved beneficial in one-on-one interactions
- IPA developed TB leaflets in four languages and reached more than 10,000 people
- TB Boards for pharmacies gave excellent visibility to pharmacies as DOTS centers
- Pharmacists saw this as an opportunity for larger social good and experiencing satisfaction at helping TB patients heal and lead normal lives
- By getting corporations to include pharmacists in the DOTS directory of the program gave them importance and allowed their efforts to be facilitated by other health workers
- Feeling of partnering with the government served as a motivational factor for pharmacists
- Print media’s support through coverage to pharmacists’ work further motivated pharmacists

## 3.2 West Bengal demonstrates strong inter-organizational linkages

The Lilly MDR-TB Partnership's initiative to pilot test the scope of community pharmacists in TB care and control in the state of West Bengal helped identify and train a committed cadre of community pharmacists. These trained resources were capable enough to report to RNTCP, any TB patient who came to their pharmacy for medicines prescribed by private doctors. Their interactions were based on genuine interest, knowledge of TB and a fair and unbiased referral system.

The Care IMPACT - Lilly MDR-TB Partnership Project is being implemented since October, 2012 and includes 10 TB units (TU) in the districts of Howrah (4) and Bardhaman (6). These districts were selected on the basis of urban locality preference to ensure the presence of community pharmacists in adequate numbers. A first-of-its-kind initiative in the state, the pilot is supported by the State TB Cell since inception. It has successfully involved the Bengal Chemists and Druggists Association at the state and district levels.



### Specific Objectives

- To increase referrals and case detection of TB suspects from the community
- To educate at least 300 community pharmacists
- To increase the proportion of referrals by community pharmacists to at least two percent of total referral of TB suspects in RNTCP
- To enroll more than 20 percent community pharmacists as DOTS providers

### Making a Difference

- A pharmacist module developed by RNTCP was translated in the local language for use in capacity building sessions. Being in the local language, it could be related to easily.
- A set of pre- and post-test questionnaires were developed and responses sought from pharmacists who were trained under the project. Select findings indicated:
  - Post training, sensitization on the spread of TB amongst community pharmacists increased from 21 percent to 65 percent
  - Understanding of signs and symptoms of TB went up from eight percent to 60 percent
  - Knowledge of the fact that sputum test is the standard diagnostic tool increased from 18 percent to 60 percent, post sensitization
  - Overall, misconceptions and taboos were reflected in the responses cited in the pre-test questionnaire which were substantially reduced in the post-test questionnaire
- A register was developed to enable community pharmacists to keep track of notification and referral activities. The field officer collected data from the register for collation and validation.

## Miraculous turnaround for childless couple

Md. Mofik and Lutfa Begum were residents of Bankura district. Many registered medical practitioners, quacks and gurus were consulted to detect reasons for their not bearing a child. It was a doctor in the neighboring district of Bardhaman who diagnosed Lutfa with TB of the left ovary. He put her on treatment but without telling her that she was eligible for free medicines from the government health center. Instead, he prescribed medicines costing Rs. 1,200 per month which the couple found steep. They knew it would be a challenge to see the treatment through for the prescribed 10-12 months and were extremely anxious about the process and the outcome. They bought the medicines from New Bardhaman Medical Store and it was here that the pharmacist, who was trained under the initiative, informed them about the program. He kept their address and the concerned doctor's details for notification. The store owner made a call to the Care field officer who arranged for the couple to visit the nearest district medical center. After following a diagnostic algorithm to which Lutfa responded favourably, she was put on TB treatment as an extra pulmonary TB patient. The couple found temporary accommodation at Bardhaman and could continue treatment for the next few months, till Lutfa gained strength and expressed the desire to return to her native village. Arrangements were made to transfer her case immediately, so that there was no break in treatment. Staff from CARE India and RNTCP continued to be in touch, monitoring her symptoms and progress. The day is not far when Lutfa will be free of TB and on her way to becoming a proud and healthy mother.



In a phased approach, the pilot program shared the list of trained community pharmacists with TUs and district level RNTCP for better coordination.

To give a boost to the initiative and to motivate community pharmacists in using innovative approaches to reach clients and influence them for testing and treatment, a plan is being finalized, wherein some of them can be felicitated and their efforts acknowledged. Additionally, they will be supported with relevant information, education and communication (IEC) materials which they can use to build greater awareness in their respective localities.

Seeing the success of the model in Bardhaman and Howrah districts, the initiative will be replicated in other districts, especially urban pockets. Simultaneously, the pilot program's impact will be assessed through an independent evaluation that will stimulate increase in referral and notification post training of chemists and their taking on the role of being DOTS providers.

### 3.3 Andhra Pradesh provides the unique option of engaging rural medical practitioners and community pharmacists

TB Alert India's association with Lilly MDR-TB Partnership Project was initiated in March 2013. Association for this project began in October 2012 with mapping, followed by training and other awareness activities that were planned across the four districts of Adilabad, Karimnagar, Nizamabad and Warangal over a period of four months.



In addition to pharmacists, it engaged rural medical practitioners (RMPs) and quacks who were mostly first reference points for TB patients. Pharmacists and the remaining RMPs were among the 70 percent service providers who were reached. Training of RMPs was carried out in a different way. State TB officers were approached and based on their experiences, activities in the project districts were rolled out in both rural and urban areas. However, special emphasis was laid on rural areas and on understanding their unique needs.

#### Specific Objectives

- To increase awareness about TB, MDR-TB, associated health illnesses and RNTCP among chemists and Rural Healthcare Providers (RHCPs) in intervention areas as well as in the general community
- To bring about active and sustained involvement of chemists and RHCPs in RNTCP by motivating them to take up awareness generation activities, making referrals of symptomatic cases to nearby testing facilities and acting as DOTS providers

#### Output Indicators

- On an average, 10-12 percent of TB symptomatic cases were tested at TB Units where the project is being implemented; they will be referred by chemists and RHCPs (at any point of time)
- Out of TB symptomatic cases referred by chemists and RHCPs, 90 percent will be tested within three days of referral (at any point of time)

## Approach

**Step 1:** Approach chemists' associations, and through them, district associations to get involved with the program. The approach being followed is to work with individual chemists before approaching chemists' associations with data, inviting them to associate with the project

**Step 2:** Map TB units, including those suggested by the District TB Officers

**Step 3:** Hire project coordinators (PC) for each unit and develop questionnaires to understand the current knowledge of chemists on different aspects of TB control and prevention. Undertake mapping of all chemists in the intervention TU. Do an initial assessment to understand the number of people who visit them to buy medicines related to cough and check if they sell any anti TB therapy (ATT). Invite them for a sensitization meeting where details about TB and RNTCP are discussed at length. Follow up with PCs' visits to all chemists who have attended the sensitization program and motivate them to be part of the project. Give modular training as per module developed by IPA to all chemists who have submitted letters of interest. Give special focus to chemists who are in the vicinity of clinics which offer chest examination and/or have medical shops in villages and slum areas.

**Step 4:** Based on mapping, finalize the list of chemists located near chest clinics, who dispensed ATT drugs

## Making a Difference

**Unique code and reference book given to chemists who were part of the campaign:** A baseline study was done to assess the awareness of pharmacists and their keenness to be associated with the project. Based on this, 30-45 chemists from each district were selected for receiving modular training. A unique code and reference book was given to them, which they were asked to fill out conveniently, without taking too much time. Every page had four carbon copies which were used to submit details to other places like DMC to track patients. This unique tracking process made recording and follow-up more accurate and result oriented. Referrals made by chemists were entered into the project Management Information System (MIS) after triangulation of all the four referral slips with the chemist, at the DMC and with the project coordinator. The project developed exclusive MIS at the TU level and at the state level with supporting evidences. On a quarterly basis, contribution of the project was measured in terms of the percentage of referrals made by the project in the total number of cases tested at TU and the percentage of cases diagnosed with TB among the referrals made by the project against the total number of cases diagnosed with TB at the DMC.

**Systematic information sharing:** After 3-4 months of program implementation, information of activities done by the chemists was collected and shared with the district association, to apprise them of growing interest amongst chemists. The appreciation and recognition received by the District TB Control Officer (DTCO) and Drug Control Authority was noted as a best practice.

**Mapping of district associations, a good idea:** The mapping estimated the number of pharmacists in each project district along with their profile, clientele and inclination to be part of the project. It gave an idea of perceptions people had vis-a-vis DOTS facilities, their awareness levels on symptoms of TB as also the treatment available.

**Gap in service delivery covered to a large extent:** In many places, the district medical college was located at a fair distance, making it difficult for people to visit the center regularly and adhere to treatment protocols. Financial issues, loss of wages and inconvenience made them irregular. With RMPs and pharmacists placed at a reasonable distance, access improved and people's reliance on quacks got reduced.

## 3.4 Tamil Nadu uses baseline findings to launch a focused program

A baseline survey amongst registered pharmacists, who were members of the local pharmacists' association, preceded roll-out of the program in the two districts of Chennai and Thanjavur of Tamil Nadu. The evidence generated helped assess behaviors, attitudes, knowledge and practices of pharmacists, service providers and the general population. It provided critical insights about the knowledge of TB and RNTCP which was not very good, sale of anti TB Drugs and the purchasing patterns of patients. Based on the findings, the program was fine-tuned to suit target groups in project districts.



### Specific Objectives

- To increase awareness levels of pharmacists of TB and the TB control program
- To engage pharmacists in referring TB symptomatic/ TB patients to the nearest accredited RNTCP centers
- To create awareness of TB amongst clientele using different means of communication
- To counsel and encourage TB patients about private treatment so that they could take regular and complete treatment for TB

### Making a Difference

***Creative and handy communication materials developed:*** With findings from the assessment, several prototypes of communication materials were prepared and field tested with the target group. Inputs from these activities were put together to design a range of innovative communication materials such as standees, patient information leaflets, tablet covers, referral slips, TB posters, helpline pamphlets and newsletters.

***Structured training modules designed:*** Pharmacists were sensitized through trainings provided by District TB Officers, master trainers and the REACH team. The training module was in the local language containing information on TB, its control, prevention and treatment. The list of resources developed were used with great enthusiasm and acknowledged as being useful, especially the compilation of information in a directory that listed microscopy centers and contact details of key staff in the RNTCP program.

***Unique referral slips used as referral mechanism:*** Referral slips in the local language developed and distributed to pharmacists during the training workshops helped structure the effort better. The pharmacists referred the patients using these slips.

**Letter of Commitment, a novel way for increasing voluntary involvement:** These Letters of Commitment were signed by pharmacists, stating ways in which they would engage in TB control activities. It placed on record their involvement and motivated them to find ways of enhancing their role. It also yielded greater support with more pharmacists evincing interest in the program.

**Use of an existing TB helpline to reach a larger number of people:** The helpline broke the silence around TB and provided people a safe and anonymous way of finding answers to their questions. The calls were mostly related to probable symptoms and treatment options.

**Involvement and commitment of pharmacists stepped up:** Cumulative efforts of pharmacists, who had already enrolled in the program and trained, resulted in bringing in more pharmacists, increasing case detection, treatment adherence and improvement in loss-to-follow-up cases.

**TB is Curable**

क्षयरोग पूरी तरह से ठीक हो सकता है।

डॉट्स

पूरा कोर्स। पक्का इलाज।

२ हफ्तों से ज्यादा खांसी  
क्षयरोग हो सकती है।

टीबी की शासनकृत  
मुफ्त दवाईयाँ 'डॉट्स'  
यहाँ उपलब्ध.

संपर्क :  
डॉट्स प्रोक्वायडर फार्मसिस्ट



### Active pharmacists influence patients favorably

"I walked into Star Medicals to get medicines for cough, where I fainted. The kind hearted pharmacist helped me recover and put me in an auto rickshaw to Sugam Hospital (one of REACH's PPM centers). A field officer helped me to undergo the sputum test which confirmed TB. Now I am taking treatment under his supervision."

"I was visiting my son during the summer vacation and was suffering from chronic cough. When home remedies did not work, he took me to Shafi Pharmacy to buy tablets. The pharmacist explained about TB and referred us to Sugam Hospital for testing. I was detected with TB but was worried as to how I would continue with the treatment since I lived in another area. They gave a letter to the concerned staff in my village for giving me DOTS medicines. I was immediately put on TB treatment."

"Ever since the chemist in my area referred me for TB care services, I have been regular with my treatment for lymph node TB and have also put on weight. I now have the confidence and commitment to ensure that I complete the remaining four months of my treatment."

## 4. Impact and Outcomes

*“Pharmacists help us in spreading awareness about TB, act as DOTS providers and help in referring patients to the government. They act with concern towards the community. I am happy to work closely with them for the larger common good.”*

*Dr. J. Lavanya, District TB Control Officer, Chennai*

Globally, there is interest in identifying cost effective initiatives, especially those that are community owned and managed. News of the ‘Pharmacists in TB Control’ project spread and its winning features are now being cited at global platforms with many high burden countries wanting to replicate it. IPA has been invited to share its experience at several international conferences. High TB burden countries are enquiring about specific aspects of the program’s management and training methodology. In 2013, senior officials from Vietnam’s Ministry of Health, visited IPA and DOTS pharmacies in Mumbai to understand how the project was being rolled-out. Based on their learnings, they are finalizing a pilot program for select sites in Vietnam.

The record reach of more than 7,000 pharmacists, who have in the last two years supervised, treated and cured 400 patients at DOTS pharmacies, only likely to see further exponential rise. An encouraging 10-15 percent of cases referred by them have been found positive and placed on treatment. Overall, their presence has led to a strong health seeking behavior pattern. Also, their enhanced knowledge levels have made the local community trust their judgement and follow their medico-advice more seriously. Going forward, this will help strengthen outcomes not only for the National TB Control Program but for other health programs too. Below is a snapshot of the results that emerged in the four project states, post the intervention.

Component	Maharashtra	Andhra Pradesh	West Bengal	Tamil Nadu
<b>Project details</b>	<p>"DOTS TB Pharmacists Project" launched in 2010. Partnering IPA are International Pharmaceutical Federation (FIP), SEARPharm Forum and Maharashtra State Chemists Association</p>	<p>"Project Pratham" launched in four districts of Adilabad, Karimnagar, Nizampet and Warangal</p>	<p>"IMPACT - Lilly MDR-TB Partnership Project" implemented in 2012 in 10 TB Units (TU) in districts of Howrah (4) and Bardhaman (6)</p>	<p>Project implemented in two districts of Chennai and Thanjavur</p>
<b>Training</b>	<p>150 pharmacists trained in 2010-11 In 2012-13, additional 200 Trained Till July 2014, 114 pharmacists trained</p>	<p>655 Pharmacists and RMPs sensitized at an average 164 per district. 234 chemists and 207 RHCPs trained as per the module and enrolled in the project</p>	<p>226 community pharmacists trained in close coordination with respective DTOs (November, 2013)</p>	<ul style="list-style-type: none"> <li>1530 pharmacies in Chennai and 872 in Thanjavur line listed. Of this 745 pharmacists have been trained in the two districts. In addition 249 students of Pharmacy college were trained.</li> <li>The pharmacists are visited periodically on a one to one basis to encourage them to participate in TB control efforts.</li> </ul>
<b>Reach/ Referrals</b>	<p>2011 data of 150 pharmacists revealed that 102 DOTS provider pharmacists were trained. The number of patients treated by 2011 end was about 400 plus, with an extra 200 being referred to for further investigations.</p>	<ul style="list-style-type: none"> <li>From Feb'13 to April'14 project associated pharmacists referred 1092 TB symptomatic persons for TB testing</li> <li>Among the total 1092 people with TB like symptoms referred, 996 reached DMC (91.2% - 996/1092) for testing and 114 (11.4%- 114/996) people were diagnosed with TB</li> <li>Project associated RMPs referred 883 TB symptomatic persons for TB testing, out of the referred 746 reached DMC (84%- 746/883) for testing and 117 people were diagnosed with TB (16%- 117/746)</li> <li>12 pharmacists are acting as DOTS providers, provided DOTS to 6 people with TB and have completed the treatment. Another 9 people with TB are still taking DOTS at pharmacists.</li> <li>21 RHCPs are acting as DOTS providers and successfully completed treatment to 9 people with TB. Another 12 people with TB are taking DOTS and one had lost follow up with treatment and migrated</li> </ul>	<p>Of the 226 community pharmacists sensitized, 60 contribute regularly through referral and notification</p>	<p>Trainings resulted in major spike in referrals. Over 16 months period there were 477 referrals to PPM centers. Of them 312 were symptomatic and 165 were already on TB treatment</p>

Component	Maharashtra	Andhra Pradesh	West Bengal	Tamil Nadu
<b>Case detection and notification</b>	16-30% in Mumbai	<ul style="list-style-type: none"> <li>From Feb'13 to April'14 across 4 TUs near about 9% (1742/20,614) of the people with TB like symptoms are referred by project associated chemists and RMPs. Similarly among the total I of 2868 people tested at DMC for TB across four TU's, 231 (8% - 231/2868) are referred by project associated pharmacist and RMPs.</li> <li>3 patients are taking treatment in the private sector were notified</li> </ul>	<ul style="list-style-type: none"> <li>183 suspects referred, of which 93 visited Designated Microscopy Labs, 78 underwent sputum test and 19 were detected with TB.</li> <li>147 TB patients taking treatment in the private sector were notified</li> </ul>	Among the 312 symptomatic referrals, 198 of them underwent diagnostic test for TB. 41 started on treatments under RNTCP. Among the 165 TB patients referrals made by the pharmacist, 59 of them were started on RNTCP Treatment. The patients who continued private treatment received Counselling.
<b>DOTS providers</b>	102 pharmacists delivering DOTS services	<ul style="list-style-type: none"> <li>33 Pharmacists and RHCPs acting as DOTS providers</li> <li>11 community awareness programs had taken up grass root level associations</li> </ul>		47 Pharmacists are functioning as DOT Providers for 69 patients.
<b>Unique features</b>	<ul style="list-style-type: none"> <li>Mumbai had the advantage of experiencing pilot programs (2006 and 2009), where pharmacists were trained to act as DOTS providers, indicating the initiative's sustainability</li> <li>Active media coverage seen throughout (10-15 stories in English/ local media, pharma periodicals, FIP journals and website)</li> <li>IPA project leader given assignment by WHO STOP TB Partnership to develop a tool kit to engage pharmacies in TB care and control. This is now being included in WHO's PPM toolkit, which showcases success of the project and helps to benefit the unreachable</li> <li>IPA invited as speaker in World Pharmacy Congress, British/ African/ Union conferences, WHO Global TB Program PPM subgroup meetings</li> </ul>	<ul style="list-style-type: none"> <li>Only State where RMPs and pharmacists are trained in formal and in-formal health settings.</li> <li>Robust data gathering and validations systems in place where data is cross checked with three referral slips at DMCs, referring pharmacist and RMP and with project staff. After this validation only data is entered in MIS system</li> <li>Regular tracking and grading of the pharmacists and RMPs performance is done on quarterly basis. Grading is done as highly active, active and inactive based on the referrals they make. Pharmacists and RMPs who are inactive are followed up regularly by the project</li> <li>Pharmacists and RMPs engagement is ensured in four aspects (1) Taking up awareness activities, (2). Referring symptomatic people visiting them for TB testing, (3) Acting as DOTS providers and (4). Supporting in notifying the people with TB taking treatment in private sector. Pharmacists, RMPs and their associations have taken up awareness rising meetings.</li> <li>Intervention area is spread across both urban, rural and at risk areas (like coal mines areas, weaves and migrant areas).</li> </ul>	<p>Translating the pharmacist module developed by RNTCP in the local language for capacity building, developing pre and post test questionnaire, seeking feedback from trained pharmacists, developing register to help community pharmacists track notification and referral activities</p>	<ul style="list-style-type: none"> <li>Approached the pharmacists through the different zonal pharmacy associations</li> <li>Participation in the periodic review meetings of the pharmacy associations</li> <li>TB helpline catered for clarifying the doubts that chest symptomatics and TB patients had on TB</li> <li>Another innovation related to developing creative and visually appealing IEC materials, presenting information in easy to understand way</li> <li>Counselling services provided to Private patients through this initiative</li> <li>Trained pharmacies advocated and supported DOTS to other pharmacies.</li> <li>Pharmacies have now become an important stakeholder in the public private mix initiative of REACH</li> <li>Established linkages of pharmacies with the District TB program.</li> </ul>

*“I feel happy when patients buy medicines from me and my happiness is doubled when I give them free. Being a DOTS provider helps me contribute to their healthy life. I hope to step up these numbers and share my experience with others in the association meetings, so that they also do the same.”*

*S. Mani, Pharmacist,  
Sri Lakshmi Pharmacy,  
Chennai*

## Achievements and Innovations

The program demonstrated a number of achievements and learnings. While some were innovative and unique, others were commendable given the lack of awareness and reluctance to undertake a comprehensive treatment regimen in those settings.

***Capitalising on the spirit of volunteerism and creating champions of change:*** Pharmacists took pride in playing a constructive role in reaching critical health services to those who were ignorant, marginalized or neglected. They made a conscious decision to set aside time for training and to engage with clients, without expecting monetary compensation. Saving a life and providing timely medical help was reward enough. Many pharmacists framed their certificate of participation hanging it in a place of prominence in their pharmacy. Their engagement with the project was driven not by the motive of profit but by the spirit of philanthropy and community service. Though

## Wearing the mantle of DOTS provider with humility and responsibility

On any given day, Deepak Barai of Shreeji Medical & General Stores, Dombivli, Thane attends to half a dozen walk-ins who request medication for toothache, fever, backache and food poisoning. He is a popular pharmacist who is trusted by the local community. He shares his experience of being involved in the TB-DOTS program.

I was awarded a Diploma in Pharmacy in 1990. I always wanted to do social work. I volunteered with a hospital in Dharavi and worked on a TB campaign. It did not need much prodding to opt for the community-based pharmacists training in 2010. I attended two trainings but found that the biggest challenge was following up with patients. I tried my own interpersonal ways of motivating them and recording their progress and found that there was still stigma attached to TB. I remember two persons who came asking for Diclofenac, a pain reliever. But when after a few months they again returned asking for the medicine, I advised them to test for TB. I told them that in case they did have TB, it was curable and they could get free treatment from my pharmacy since I was a certified DOTS provider. While one of them complied and returned for treatment, the other got scared. He stopped visiting us, only to return after six months with his report confirming TB status. The success with these patients spread and more cases were referred to me. When one of my patients moved to a neighboring city, I spoke with the local TB officer and got her case transferred to a pharmacy close to her new residence. These gestures were appreciated. There were patients who were terrified of testing, especially older people. I accompanied them to the testing center, reassuring them that once diagnosed, help was available. It was an untreated condition that was worrisome. A lot more can be done. We pharmacists must be trained in new ways of reaching/ convincing people for treatment.

paid a token Rs 250 on completion of a TB patient's treatment and Rs 1,500 for MDR-TB, this was not the reason why they enrolled for the training. It was the feeling that they were contributing to society that was more important.

***Project Coordinator proved to be a useful link wherever present:*** The decision to have a dedicated PC was worthwhile since s/he connected the pharmacist with the ground staff and District TB Officer. For doubts and clarifications, the PC served as a critical link, generating awareness-testing for TB, confirming status-counselling-beginning treatment-following up-completing treatment.

**Strong PPP initiative:** The success of the model demonstrated the strong role partners play in steering and implementing the program. Clearly defined roles, smooth funding arrangements and delivering on commitments made gave teeth to the initiative which built synergies between the government, District TB Officers, ground/field staff, implementing agencies, local NGOs, pharmacist associations, pharmacists and health providers.

***Changing perception of pharmacist from medical vendor to healthcare provider:*** Viewing the pharmacist as a friendly and sensitive healthcare provider was a major boost to the program. A new cadre was added and one that worked voluntarily, existed in thousands, had huge community presence and was personally committed to making their areas TB-free.

***Earning national and international exposure:*** The large pool of trained pharmacists turned DOTS providers making referrals and demonstrating potential for sustainability that was rooted in a community-based framework was inspiring. Viewed as a success story, its elements were

*“Merits of a strong PPP initiative have been seen in pharmacists in the TB Control Project. The collaborative effort of FIP-SEARPharm Forum-IPA and Lilly MDR TB partnership has trebled detection and treatment results in project sites, creating a health seeking environment with a trust-based relationship developed between the local chemist-client.”*

*Prafull D. Sheth,  
Vice President, FIP*

### **From pharmacist to healthcare worker**

Mahadev Patel, a 37-year old energetic pharmacist from Patel Medicals, Mulund, Mumbai won the Pharmacist of the Year Award in 2010. He did his Pharmacy in 1993 and turned his father's general store into a pharmacy in 1996. The TB Card Project in 2006 was his first interface with the national TB program and ever since, he has worked with missionary zeal, taking personal interest in engaging with clients, reaching them, interacting with local accredited social health activists (ASHAs)/ RNTCP staff and following up with patients. His family takes pride in his sincere contribution to society. He is invited to share his experience with other pharmacists. He views himself as a pharmacist who is a true healthcare worker rather than a businessman-pharmacist.

*“A large resource base of influencers and TB advocates was created in the shape of pharmacists. Their conviction to the cause lent itself to their interactions making the case stronger for TB control and prevention.”*

*“The project made the government DOTS program more accessible and patient-friendly. It reduced the stigma associated with visiting TB clinics. By widening the DOTS network, coverage and timely detection, access to treatment will get better and bring down MDR TB.”*

*Dr. Arun Bamane, Deputy  
Executive Health Officer,  
Mumbai Municipal  
Corporation (TB)*

shared at national and international conferences. Apart from being replicated in other states, a few high incidence TB countries made exposure visits, in order to learn from India’s experience.

***Behavior change amongst pharmacists evident:*** While clients were still to show consistent behaviour change, pharmacists were convinced on the merits of the program. They knew the potential of their role and the goals they had to pursue when connecting with walk-in clients.

Mapping Block Associations provided valuable data and insights: As in the case of Andhra Pradesh, where mapping was undertaken, program managers and pharmacists used the additional information. With better insights on health seeking behaviors and attitudes of potential clients, they could pitch their discussions and relate to their clients better.

***Partnering with Pharmacists Associations lent credibility:*** Having associations on board meant easy access to their membership. A single circular helped them reach all registered pharmacists. Calling for meetings, posting announcements and tracking was now easier.

***Reducing stigma:*** By creating greater visibility for TB and turning the neighborhood pharmacist into an influencer/ DOTS provider/ counsellor demystified the ‘aura’ around TB and its associated morbidity/ mortality. More needs to be done but a beginning has been made.

## **Innovation**

### ***Commemorating special days to popularize messages and draw attention to pharmacists' role in TB prevention and control***

The year 2010 marked a halfway point for the Global Plan to Stop TB (2006-15). The slogan, 'on the move against TB' campaign focused on individuals around the world who had found new ways to stop TB. By recognizing people who introduced innovations in different settings, SEARPharm Forum and Indian Pharmaceutical Federation, released a series of media stories stating that DOTS treatment introduced/endorsed by WHO was a cost-effective health strategy that was being scaled-up in Indian pharmacies. Thereafter, every year, CPD conducts TB awareness programs for the community through pharmacists on World TB Day and IPA. Students' Forum organizes awareness campaigns by recording, documenting and sharing success stories. On the special day, at state functions, well performing DOTS provider pharmacists are felicitated.

### ***IEC materials in Tamil Nadu cater to all target groups effectively***

Visually appealing IEC materials created awareness, dispelled myths, reminded people about important dates and health camps, provided factual information on where to get treatment, how to administer medication and who to turn to for clarification. Using local icons and language, they transcended barriers of caste, color and creed. They also catered to audiences that were illiterate, marginalized and unable to access information through popular mediums like TV, radio and newspapers. By using flip charts, posters, hand outs, standees, banners and other aids, these IEC materials came handy for not just pharmacists but also frontline health workers, staff at primary health centers (PHCs)/ community health centers (CHCs) and other influencers.

*“As pharmacists, we are able to reach and serve the community. We make customers more aware of TB and TB care services by disseminating correct information and we allay their fears, which in turn, bring down levels of stigma.”*

*M. Balasubramaniam,  
Chairman, Retailer Wing,  
Chemists and Druggists  
Association, Chennai*

# 5. Challenges and Lessons Learnt

*Implementing DOTS TB Pharmacists Project in Maharashtra, West Bengal, Andhra Pradesh and Tamil Nadu was not without learnings. While a common thread was the enthusiastic and impactful involvement of pharmacists and resultant spike in testing, identification and treatment, challenges were faced at different stages of the initiative's roll-out.*

Based on feedback from the project staff, field officers, clients/beneficiaries and pharmacists, the following areas need to be revisited and reviewed in the next phase of the program. Challenges have been categorized under those that were program (technical, administrative, HR related) and social, cultural and environmental.

## 5.1 Program related

***Support from all quarters yet to flow in:*** Though the initiative received support at state and district levels, in some TB units, the pilot programs did not meet 100 percent cooperation of local officials. Ensuring regular involvement of RNTCP officials while collaborating with community pharmacists was a challenge. Efforts are being made to initiate dialogue and step up their engagement. Once they back the program, more pharmacists will join, generating visibility and motivating others to step forward to have doubts cleared, identify TB symptoms and seek timely treatment.

***Data collation and validation, not uniform:*** Spread across project districts, results of data collation and validation are not consistent and uniform. While Field Officers capture progress on ground better in one district, the same may not be true of another. Tele-validation was done at few places but not in real time, causing DTOs to lose track of actual achievements since they did not get fully reflected in reports.

***Under reporting is still an issue:*** Community pharmacists working in interventional TUs maintain busy schedules. They are not just DOT providers or TB counsellors but have their chemist practice to maintain and clients to manage. So while many provide counseling services and medication to TB suspects, they do not always follow it through with proper record of interactions, level and pace of treatment and any other information which the patient has to share. The scope of data capturing of referral and notification is being hindered. The tendency to refer and notify but without a meticulous account of results leads to under reporting of incidence and estimating impact.

***Conducting bi-annual meetings a challenge:*** In many places, the intervention area is vast and since community pharmacists are busy, maintaining meeting schedules is difficult. Missing/ delaying meetings creates a negative impact with lack of seriousness reflected amongst the cadre. Meetings provide opportunities to share and flag issues and seek solutions. By skipping meetings, there is a disconnect with expected outcomes.

***Frequency of releasing DOTS register not done smoothly:*** Initially, only referrals were an indicator of performance though awareness generation was also treated as a positive. In terms of administration, the number of slips to be filled was brought down to three because maintaining boxes at the DMC was difficult. PC cross-checked the slips while the Coordinator collected them from the chemist during weekly visits and checked them with those at the DMC. In case the patient had not visited, a household visit was made to check reasons and see if the patient could be taken to the DMC to complete the process. Cases were further referred to senior tuberculosis laboratory supervisor (STLS) or *anganwadi* workers (AWWs) for DOTS. PC was the important link in the whole process. Percolation of information from trained pharmacists to other staff within the pharmacy was not always done.

***Referral slips not used in all cases:*** This led to errors/ discrepancies in recording cases. It did not get reflected in case detection and treatment count. In places like Tamil Nadu, even though many of the pharmacists had updated that they had referred several symptomatic/ TB patients for diagnosis/ treatment to government centers without referral slips, due to this, these referrals were not able to be traced. They cited busy counter sales and certain timings of the day as reasons for referring patients without referral slips.

## 5.2 Social, cultural and environment related

***Behavior change slow in coming:*** While the program generated awareness and pharmacists spent considerable time talking to people, it did not always lead to behavior change. In West Bengal, out of the 226 pharmacists who were sensitized, only 62 were active. The pilot program aimed to develop 35 percent community pharmacists who were actively participating in TB control but had achieved a target of 28 percent.

***Chemists are business oriented and not always motivated to promote RNTCP:*** Not all chemists join the program enthusiastically. Initially, many are sceptical, wondering how it will benefit them. Doing quick cost benefit analysis to see how much of their time and effort will be taken up, they decide to associate. Many prefer to ‘wait and watch’, seeing the program roll-out before committing themselves. In some places, they join and undergo training but do not make too many referrals.

***Few qualified pharmacists in rural areas:*** The project trained as many chemists as possible. For DOTS provision, the strategy was different for rural areas. The shops were usually small, with just one person managing it with support from family members. In new areas, the approach is to first map chemists, and then keep the pharmacist association informed.

***Stigma associated with taking DOTS from local pharmacists:*** Frequent visits to a pharmacist set tongues wagging, making people curious about the medical condition of the person. At a bi-monthly meeting, it was suggested that pharmacists be requested to do referrals while DOTS be provided through ASHAs/ auxiliary nurse midwives (ANMs) during their house visit.

***Scope of involving pharmacists as DOTS/Flexi DOTS provider limited:*** In many places, ANM/ ASHA workers are already working as DOTS providers and there is little scope to involve community pharmacists. A few resented the importance given to pharmacists for something they felt they should be doing. The community reaching out independently to pharmacists undermined their sense of importance, leading to many feeling disgruntled.

# 6. Recommendations and Way Forward

*“The role of pharmacists is important to motivate TB patients to complete treatment in a timely manner. They serve as excellent change-agents who have the ability to shape the community they live in, especially when empowered through training and meaningful engagement.”*

The “DOTS TB Partnership” is viewed as a historic development in the history of community-based health interventions. Involving pharmacists in a structured and organized government program has been a first. Working with local NGOs, pharmacist associations and government officials at the state and district level lent cohesiveness to the initiative that is at once sustainable and encouraging. This is a beginning which can be strengthened and expanded to other areas of healthcare too, such as HIV, Malaria, and Leprosy Control programs, amongst others in the coming years.

TB continues to be a major public health problem accounting for substantial morbidity and mortality in the country. Early diagnosis and complete treatment of TB is at the center of the national TB prevention and control strategy. TB-related MDGs must be met by 2015 and the Stop TB Partnership’s vision of a world free of TB realized by the year 2050. RNTCP’s decision to expand this pharmacist model in other states will only help strengthen the bigger goals of TB control and prevention. An estimated 3-5 years roadmap is needed to achieve these targets.

The Lilly MDR-TB Partnership has played a pivotal role in giving a push to national efforts and going forward, this will be further streamlined. It will continue to create a sustainable option as it joins

*“It is good to involve pharmacists in early detection and referral of TB symptomatics and engage them as DOTS providers in the community. Simultaneously, explore the possibility of engaging them in TB notification too.”*

*Dr. J. Arivoli, State TB Officer  
& Joint Director of Medical  
Services,  
Tamil Nadu*

*“This is a noble community-friendly initiative. By sharing periodic project updates with the Drug Controller and the Drug Inspector, we can elicit their support as DOTS providers.”*

*Abdul Kadar,  
Drug Controller,  
Tamil Nadu*

hands with RNTCP to achieve the goals of the National Strategic Plan, for the period 2012–2017, which has as its objective, the commitment of ensuring ‘universal access’ for quality diagnosis and treatment for all TB patients in the community. Retail pharmacies will indeed emerge as a significant and innovative player in this process.

## 6.1 Recommendations to strengthen program component

***Enrol more pharmacists in the program:*** New innovations and strategies would be needed to build momentum in getting trained Community Pharmacists (CP) to commit more to the program – as DOTS providers or playing a more active role in TB control and prevention. Finding ways to motivate pharmacists, honoring their work, giving them recognition, involving them in giving talks and building on their spirit of volunteerism would give the initiative an impetus.

***Address under reporting:*** CPs refer and notify, but they do not keep track which results in under-reporting. Stronger monitoring and case-recording is part of an integral and well embedded process. Towards this end, tools, aids and training must be provided. Ideally, if a local TB officer can make an occasional round to check and follow-up with the CP, it would exert gentle pressure. Using it as evidence to assess the best performing chemist shop might prove to be a motivator. In addition to this, the success of every missing case/ drop-out that has been resolved should be highlighted.

***Need for greater cross learning within states:*** As the program gets scaled up, there would be learnings from other locations. Creating opportunities to meet and discuss achievements and challenges would add value to interventions and special activities planned from time to time. Exposure visits to neighboring states, especially of a team comprising high performing CPs would be a good learning experience.

***Strengthen role of Drug Control Authority:*** Involving the Drug Control Authority would help as they have

control over chemists. Their presence would lend more credibility and structure to implementation. They would be able to address issues related to availability of drugs at pharmacies and healthcare centres, based on feedback from pharmacists.

***Explore possibility of including RMPs:*** Learning from the success of Andhra Pradesh, mapping local RMPs in the area and assessing their efficacy and eagerness to partner in the TB initiative, followed by training and induction would further expand the reach of TB services and ensure that those who are still out of the treatment ambit are brought in. This would lead to a significant increase in case detection and treatment.

***Establish greater engagement with pharmacists' associations:*** Routing the initial contact with CPs through pharmacists' associations helped save time. It delivered good results. This must be made mandatory as the first step when the initiative is implemented in a state. To seek details on behaviors, physical numbers, trends and attitudes of local pharmacists would help program managers to modify their approach, training curriculum and interactions.

## 6.2 Recommendations to strengthen social, cultural and environment related aspects

***Continue with awareness generation to dispel myths and reduce stigma:*** There still are deep-rooted biases that exist in people's minds regarding TB. Many think it is life threatening/ infectious/ spreads through sexual contact. This creates fear, stigma and non compliance. Coming to the chemist shop on alternate days is fraught with anxiety of being "discovered" and gossiped about. This has to be addressed through health camps, counseling not just by chemists but other health service providers and suitably placed IEC/ behaviour change communication (BCC) material.

***Create a culture of health seeking behavior:*** Once the connection between the CP and the client is established, this can be built further with the CP sharing information on other health programs. Overall, emphasis should be to create a strong general health seeking pattern in the community, where they trust their local pharmacist and reach out to allay fears, seek clarifications and enlist support through appropriate referrals.

On behalf of the Lilly MDR-TB Partnership, we'd like to thank our partners - IPA, Mumbai, TB Alert, REACH and Care India. Without them, these pioneered initiatives would not be possible. Thank you for your contribution.



