

Enhancing the role of private practitioners in tuberculosis prevention and care activities in India

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ABSTRACT

India accounts for the highest number of incident tuberculosis (TB) cases globally. Hence, to impact the TB incidence world over, there is an urgent need to address and accelerate TB control activities in the country. Nearly, half of the TB patients first seek TB care in private sector. However, the participation of private practitioners (PPs) has been patchy in TB prevention and care and distrust exists between public and private sector. PPs usually have varied diagnostic and treatment practices that are inadequate and amplify the risk of drug resistance. Hence, their regulation and involvement as key stakeholders are important in TB prevention and care in India if we are to achieve TB control at global level. However, there remain certain barriers and gaps, which are preventing their upscaling. The current paper aims to discuss the status of private sector involvement in TB prevention and care in India. The paper also discusses the strategies and initiatives taken by the government in this regard as evidence shows that the involvement of private sector in co-opting directly observed treatment short-course (DOTS) helps to enhance case finding and treatment outcomes; it improves the accessibility of quality TB care with greater geographic coverage. Besides public-private mix, DOTS has been found more cost-effective and reduces financial burden of patients. The paper also offers to present some more solutions both at policy and program level for upscaling the engagement of PPs in the national TB control program.

KEY WORDS: Directly observed treatment short-course, policy, private practice, public-private partnerships, tuberculosis

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INTRODUCTION

India, accounting for one-fourth of the global incident cases annually, is the highest tuberculosis (TB) burden country globally.^[1] Intervening and acceleration for TB prevention and care in India are important to end the global TB epidemic.

As a part of 12th 5-year plan, the Government of India has approved the National Strategic Plan 2012–2017 that envisages “Universal access for quality diagnosis and treatment for all TB patients in the community.” One of the key focus areas of the plan is substantial

engagement of private sector, and extension of Revised National Tuberculosis Control Programme (RNTCP) to patients diagnosed and treated under it.^[2] However, TB control activities face unique challenges due to different health-seeking patterns of TB patients.^[3,4]

Even though there is lack of systematic data burden of TB in private sector, previous studies have estimated that about 40% of TB patients in India are treated in the private health sector.^[5] Estimation of number of patients of TB treated in private sector using drug sales data puts this to

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be even 2–3 times higher than previously assumed.^[6] In addition, patients resort to (on an average) 6–9 providers before finally reaching the directly observed treatment short-course (DOTS) center.^[7] Further, TB diagnosis and treatment practices among private practitioners in India vary widely and are not formally regulated by the national TB program.^[8]

Since private sector is playing prominent role in delivery of TB prevention and care, engaging them is the most important intervention to achieve the goal of universal access. This paper discusses the status of private practitioner's participation in TB control in India, their barriers to engagement with RNTCP, initiatives undertaken by RNTCP, and successful case studies from worldwide that could be replicated to enhance their role.

PRACTICES OF PRIVATE PRACTITIONERS IN TUBERCULOSIS CONTROL ACTIVITIES IN INDIA

Lack of quality assured health services in the public facilities has resulted in the emergence of a large unregulated and urban-centric curative private health sector. Out of pocket health expenditure in India is 85.9% of private expenditure on health.^[9] The 71st round of the National Sample Survey Office reports private doctors to be the single most significant source of treatment in both the rural and urban sectors in India.^[10]

Private sector dominates in TB treatment as well. More than half of the patients attend private facilities initially for TB care and often managed inadequately.^[6,11] Nearly, 50% of the retreatment cases notified under RNTCP are treated in the private sector before reaching RNTCP, suggesting inadequate treatment, and possible amplification of drug resistance.^[12] Treatment initiation delays have been found to be associated with private providers in care pathways of TB patients.^[13] In many parts of India, the private sector has still remained alienated from DOTS implementation; hence case detection has remained low in many of these regions.^[14] Further, in the private sector, patients pay a lot for tests that are inaccurate.^[15] A review of comparative performance of public and private health-care system in low-income country like India has also suggested that providers in the private sector more frequently violated medical standards of practice and had poorer patient outcomes. In addition, reported efficiency tended to be lower in the private than in the public sector, resulting in part from perverse incentives for unnecessary testing and treatment.^[16]

Private sector in tuberculosis diagnosis

Studies have also demonstrated the gross lack of knowledge of private practitioners (PPs) about the best protocols for the diagnosis and treatment of TB.^[17,18] In a study by Datta *et al.* in 2010,^[17] of the total 260 randomly

selected PPs in Hooghly district of West Bengal, only 11% were following the guidelines of RNTCP. Majority (68%) of them were prescribing chest X-ray as against the standard diagnostic test-sputum examination for TB diagnosis. In another study conducted in Pune, it was found that use of sputum microscopy for TB diagnosis was 63% only.^[19] A systematic review of 22 studies evaluating provider knowledge about sputum smears for diagnosis, 10 found less than half of providers had correct knowledge with public sector providers having more knowledge than private providers.^[20]

Early detection followed by early initiation of therapy is extremely important in controlling TB. In high prevalence countries, delays in diagnosis and in treatment are often prolonged.^[21] In a study by Thakur and Murhekar in Mandi district of Himachal Pradesh, in 2010, it was found that the median duration between the first consultation and initiation of treatment (health system delay) was 13 days (range 1–204 days).^[22] The study also highlighted that TB patients who consulted private health facilities were more likely to have longer total delay.^[22] Another study by Kulkarni *et al.* in Mumbai had similar findings.^[23] Thus, evidently provider or health system delays are more associated if the patient visits private facilities for the first consultation. This has serious implications in terms of delay in diagnosis and treatment resulting in prolonged transmission. Further, delay in TB diagnosis may also lead to a more advanced disease state, which contributes to adverse events and overall mortality.^[24]

Private sector in tuberculosis treatment

As far as the treatment practices are concerned, the private sector treatment is quite varied. In a study done in Chennai, 160 private doctors out of 228 prescribed 27 different regimens,^[25] and a recent update done in the slums of Mumbai showed no significant improvement. Only 6 of the 106 respondents wrote a prescription with a correct drug regimen. Further, 106 doctors prescribed 63 different drug regimens.^[26] Another piece of evidence comes from the State of Andhra Pradesh wherein very few PPs were reported to follow TB diagnostic and treatment practices that met the International Standards of Tuberculosis Care.^[27] Use of standardized patients in low- and middle-income areas of Delhi in the assessment of quality of care in TB showed that 52 (21%) out of 250 patients were correctly managed by the private providers.^[28] A recent systematic review by Satyanarayana *et al.* also reveals that quality of care being provided by health-care providers in private sector is suboptimal.^[29]

Private retail pharmacies are key component of dispensing forum and many TB patients seek advice and drugs from them.^[3] A multicentric study in the three cities of Delhi, Mumbai, and Patna has shown that 38% of the pharmacies dispensed antibiotics such as fluoroquinolones or steroids to people with TB symptoms but no test results.^[29] This

is especially worrisome because these drugs delay TB diagnosis. Further, fluoroquinolones are a part of drug regimen for the treatment of drug-resistant TB and hence its use is cause of concern.

Private sector in tuberculosis notification

In 2012, India declared TB a notifiable disease, which means that both public and private sector facilities have to report all the TB cases coming to them to the authorities. Whereas almost negligible reporting of TB cases was being done by private sector before 2012, the notification rate has increased steadily from 0.3 in 2013 to 3.1 in the year 2014 and 14.8/100,000 population in 2015.^[2,30] According to the 2015 Global Tuberculosis Report, among the 10 high burden countries, public-private mix interventions in India accounted for only 12% notifications.^[1] Further, in the survey done among 169 PPs in Kerala in 2014, even though 88% were aware of the mandatory notification, there was poor reporting from the district.^[31] Similar findings have been reported from Chennai by Thomas *et al.*^[32] “Lack of time and concerns regarding patients’ confidentiality’ has been reported as reasons for not notifying in Chennai.^[32] The paradox here referred as “perception-practice gap” highlights that due to under-reporting by the private sector, many cases of TB might be missing in the notification system.^[31] Thus, there remains a lot to be worked on to improve notifications from private providers.^[33]

RATIONALE FOR ENHANCING THE PARTICIPATION OF PRIVATE PRACTITIONERS IN REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

As discussed previously, enhancing the participation of private practitioners in RNTCP is critical to TB control in India. The rationale behind involving them is as follows:

- Majority of patients initially seek care from private providers before they turn to public institutions.^[5,7] Therefore, RNTCP should try to capitalize on ability of this sector to reach patients who would not, or are unable to, access public services
- Treatment regimens under RNTCP are efficacious and cost-effective compared to the regimens prescribed by PPs. By involving the PPs in RNTCP, it would be possible to bring about desired changes in their treatment practices. Such changes will contribute to control of the disease in a cost-effective manner, over a period of time^[34]
- Participation of PPs in RNTCP would also help reduce the financial burden on the poor, arising due to cost of drugs in particular. Economic evaluations undertaken on two public-private mix (PPM) DOTS sites in Hyderabad and New Delhi revealed that the cost per patient cured to the society was slightly lower in PPM DOTS compared to public sector DOTS^[35]

- The government infrastructure by itself cannot possibly deliver care to all patients because it would mean a substantial increase in infrastructure and personnel in public system.^[36]

Thus, strengths within the private sector offer many opportunities to RNTCP to rapidly improve local access and acceptability. The private sector enjoys the advantages of more convenient timings and locations, shorter waiting periods, closer identity with the communities they serve, and greater trust enjoyed.^[36-38] Further, involving PPs to co-deliver DOTS would rapidly enhance the case finding and treatment outcomes. In addition, it will accord a sense of joint ownership and accountability to TB control activities in India.^[36] The cross project analysis of secondary data from separate PPM projects in four cities, namely, New Delhi, India; Ho Chi Minh City, Vietnam; Nairobi, Kenya; and Pune, India, showed co-delivery of DOTS results in successful outcomes.^[39] Hence, there is a strong case for addressing their participation in RNTCP.

BARRIERS AND CHALLENGES TO INCREASED PARTICIPATION OF PRIVATE PRACTITIONERS IN REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

TB program managers at the state and district level seem to be aware about the suboptimal engagement of PPs in TB control, but their efforts to upscale the role of PPs are yet not enough. Second, there is ideological opposition within the public sector against enhancing the role of PPs in TB.^[37] Lack of complete information about the PPs and the preconceived notions and prejudices against PPs, that they have profit motive only, are the factors of reluctance to collaborate. In addition, lack of resources for coordination, supervision, and weak regulatory mechanisms prevent the public sector from venturing out into the territory of private sector for collaborative efforts.

These views are reciprocated by the private sector, on the other hand. Private doctors generally have inadequate training and lack of information about DOTS. Second, they lack confidence in treatment regimens and diagnostic methods of the national TB Control program. They also have doubts as to whether the quality of care, provided under RNTCP is good enough for their clientele. Further, they give low or almost negligible priority to public health as it is considered less remunerative to them. In addition, private sector is largely unorganized, which makes liaisoning further challenging. They have no representation at the planning stage of the program, which does not give them a sense of ownership or accountability to the program.

The constraints and barriers, as perceived within the health system, which are limiting the upscaling of private sector in RNTCP are as follows [Table 1].^[7,37,38,40]

Table 1: Perceived barriers in health system for upscaling private sector in Revised National Tuberculosis Control Programme

Perceived barriers	
Within the public sector	Within the private sector
Ideological opposition and mistrust	Inadequate training and lack of information about DOTS
Lack of information about the private sector (in terms of their numbers and distribution)	Technical doubts about the program
Preoccupation with strengthening and implementation of DOTS within public sector	Inadequate quality of care within RNTCP
Prejudices about private for profit motive and behavior of PPs	Low (or no) priority to public health as less remunerative
Lack of resources for coordination, supervision, and weak regulatory mechanism	Largely unorganized; liaison and interaction challenging
Absence of precedents doubts of replicability	Infrastructural limitations; competition for patients
Great reluctance to initiate collaboration	Genuine limitations to ensure treatment adherence
Doubts about quality of care by PPs	Limited involvement of private sector in planning stage of the program

DOTS: Directly observed treatment short-course, RNTCP: Revised National Tuberculosis Control Programme, PPs: Private providers

INITIATIVES UNDERTAKEN BY REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME TO INCREASE THE PARTICIPATION OF PRIVATE PROVIDERS FOR TUBERCULOSIS CONTROL

Efforts to collaborate with private sector, though in isolation, have been made since the inception of RNTCP. The implementation of the RNTCP in a tuberculosis unit area by Mahavir Hospital (1995) in Hyderabad and the Ramakrishna Mission in Delhi (1997) were early examples.^[7,41] Between 2000 and 2002, many models of public-private collaboration in the RNTCP came up.^[7,42] In 2003, the RNTCP launched intensified PPM DOTS activities in 14 urban districts. WHO-PPM medical consultants and peripheral field supervisors were recruited.^[7,41,43] The Central TB Division published guidelines for the participation of the NGOs (in 2001) and private practitioners (in 2002) which were later revised in 2008.^[44] The guidelines are again under revision in consultation with various stakeholders.^[26] At present, RNTCP has established 2569 NGO partnerships and 13150 collaborations with private practitioners and other private sector entities.^[45] Standards of TB Care in India have been formulated recently, and the standards are relevant to the Indian context and are acceptable to both public and private health sector.^[46] Mandatory notification of TB cases has been introduced since May 2012 in recognition of fact that private sector provides treatment for approximately 50% of TB patients. Nikshay,

a new web-based system for case-based notification has been introduced in this regard to facilitate reporting by private sector.^[1]

Experience from various PPM projects across the country shows that such initiatives not only lead to better case detection rate but also achieve successful treatment outcomes.^[40,43] This further supports for broad scaling up of PPM into routine practice for TB control.

STRATEGIES FOR ENHANCING THE PARTICIPATION OF PPs IN IMPLEMENTATION OF REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Despite the fact that RNTCP has taken so many initiatives to upscale the engagement of PPs, their participation has been patchy. Thus, this calls for a strategic approach to address the barriers and gaps. Identification and resource mapping of all PPs in an area would serve as stepping stone in this task. Mapping would include not only their numbers but also their education, experience, and type of services they provide.^[7,9] The inclusion of practitioners of Alternate Systems of Medicine in program implementation is another key strategy that would ensure enhanced case finding, referral and case holding in provision of DOTS.^[35,47]

Participating private providers would need to be oriented to the policy and practices of the national program, impart skills, and motivation to lead their staff and patients to adhere to DOTS.^[36] They must update their professional knowledge regarding the program through continued medical education, workshops, seminars, online courses, etc., This will enhance their technical competence acceptability.

Evidence suggests that incorporating PPs as key stakeholders in TB control activities in the country will help in building trust and transparency in operational and strategic issues. At the policy level, it is important to do so, to treat them as equal partners in planning, implementation, monitoring, and evaluation of the national program.^[37] This would enhance sense of accountability and ownership among them toward TB control. It is also important to clearly delineate the roles, responsibilities, and accountability of both public and private sector on the basis of expertise and skill of each stakeholder.^[11] The Joint Monitoring Mission (JMM) recommended the setting up of advisory group comprising the Indian Medical Association, NGO partnership, and Medical Colleges Task Force as well as involving others that are not previously engaged, such as the PPs, pharmaceutical sector, nonallopathic doctors, management/marketing experts, human immunodeficiency virus-focused NGOs, independent medical stores/chemist shops, and affected patients and community representatives.^[48]

Further, evidence suggests that instead of a centrally administered uniform model, services may be decentralized to develop locally appropriate models of partnerships with PPs.^[35] However, national guidelines must be developed. Local Coordination Committees may be set up at district or TB unit level to operationalize these partnerships.

A review of implementation of public-private partnership in the states of Tamil Nadu and Kerala revealed that most PPs and NGOs are engaged without any “formal contractual” arrangement.^[33] Formalization of partnership between the two parties through a Memorandum of Understanding helps to improve private sector confidence in public sector.^[46] It helps in better monitoring and commitment from both the parties.^[34]

The JMMs conducted in 2009^[48] and 2012^[49] have shown that delays as well as nonpayment of reimbursements for the implementation of schemes, prompted private practitioners to stay away from signing any new schemes.^[47] In addition, only 4% of the state’s allocation is for PPM and out of this only one-third is being actually spent.^[48] To resolve this issue, the program managers must ensure that grant-in-aid and incentives are sanctioned and released to partners as per contracts on time to sustain their services. Involving private sector requires consistent flow of funds to support their activities.^[34]

Development of monitoring indicators to assess the progress of private providers in TB control activities is also required. It is necessary to quantify their contributions not only in terms of increased case detection and treatment success rates but also improvement in the quality of services, awareness generated, acceptability of DOTS by peers, discussion of DOTS-related issues in various forums and reducing provider related delays at various levels.^[5] Those PPs who have really contributed in TB control activities in terms of both quantity and quality must be suitably acknowledged.

SOME SUCCESS STORIES OF ENHANCED ENGAGEMENT OF PPs

Case study I

Mumbai Mission for TB control (MMTBC) is collaborative effort of the Municipal Corporation of Greater Mumbai, Central TB Division, WHO, and Bill and Melinda Gates Foundation and has been operational since August 2014. The Private Provider Interface Agency (PPIA) operates as part of MMTBC, which aims at strengthening the capacity of private practitioners serving people in slum areas to ensure early, accurate diagnosis of TB (including drug-resistant forms), effective case management, and successful treatment. Patient subsidies are implemented through a voucher mechanism. Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy doctors prescribe digital chest X-rays for coughing patients at nearby PPIA-engaged laboratories. If the patient is

suspected of having TB based on the X-ray, he or she is referred to a hub hospital, where a chest physician or internal medicine consultant provides specialized testing and care. Once a TB diagnosis is confirmed, the patient receives free first-line anti-TB drugs from a private chemist through a system of electronic vouchers. A contact center runs the e-voucher mechanism and supports field workers in facilitating treatment adherence. Patients receive regular reminder text messages and phone calls to ensure adherence. Drug refill schedules are tracked to ensure compliance. PPIA has initiated 14,000 patients on treatment and about 4000 patients have successfully completed their treatment.^[50] Similarly, pilot project in Mehsana, in Gujarat, provides vouchers for free of charge provision of anti-TB medicines to patients receiving care from private providers.

Case study II

Universal Access to TB Care (UATBC) initiative of World Health Partners with State Government of Bihar launched in 2014 helps urban residents of Patna, Bihar, access TB care more quickly by working with private providers. Approximately, one-fifth of Patna’s private providers have joined the UATBC initiative. Patients receive free diagnostic testing and treatment for TB. Providers receive user-friendly (technology based) means to notify TB cases, free services for their patients, and support in retaining their patients.^[51]

Case study III

Initiative for Promoting Affordable, Quality TB tests (IPAQT, www.ipaqt.org) is a coalition of private laboratories in India, supported by industry and nonprofit groups, that has made WHO-endorsed tests available at affordable prices to patients in the private sector.^[47,48] The business model of IPAQT is based on a comparison of high-margin low-volume (premium) versus low-margin high-volume (mass-market) pricing models. Under the initiative, the tests such as Xpert MTB/RIF and Line Probe Assays are available at prices approximately 50% than the private market prices.^[52]

Several private laboratories in India have agreed to offer the tests not exceeding negotiated, ceiling prices to patients, notify the government of the cases diagnosed, promote the use of these tests, and participate in external quality assurance and in exchange, they would get reagents at significantly reduced prices. As of May 2016, currently, 121 laboratories and 5500 collection centers are committed to providing these tests at affordable prices and they cover more than 85% of Indian districts.^[53,54]

Replicating innovation from other national programs

There are many national health programs in India, where PPM has been actively encouraged. For example, National AIDS Control Programme for detection of the infection, for human behavior modification, blood safety, and hospital infection control, Chiranjeevi scheme 2005–2006 in

Gujarat in Reproductive, and Child Health Programme for emergency obstetric care and transport. Another instance is in NHM where to ward off delays in payment of incentive to ASHAs; the state has introduced the system of paying incentives using debit cards, which could be explored to ensure timely payments for private sector participants in TB as well.^[7]

CONCLUSIONS

There is much strength within the private sector, which offers several opportunities to RNTCP to tap for improving accessibility and acceptability. They need to be included in public policy, which at present largely ignores their presence. Provision of incentives to participating PPs in timely and regulated way would pave the way to increasing their participation. It is being recognized that adoption of a partnership approach with private providers would be the feasible and cost-effective approach for TB control. Innovative strategies should be adopted to use these resources for accelerated, technically optimal, and financially viable health-care delivery to the underserved section of the population for TB care.^[35] Further, cues can be taken from initiatives undertaken in other national health programs. Thus, if the country is to fulfill its goal of universal access for TB, engaging private sector is an important pivot in this.

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