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Engaging for-profit providers in TB control: lessons learnt from initiatives in South Asia

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Key messages:

- While it is well documented that private health providers play a major role in diagnosing and treating poor patients in South Asia, there is little literature discussing which elements of private sector engagement strategies are more or less successful and ethical issues that arise when engagement strategies are operationalized.
- Private for-profit providers are a non-homogenous group; impactful engagement requires an understanding of the different types of providers operating in the setting of interest and of their business models and priorities.
- Because ethically and medically sound practices for diagnosing, treating and reporting infectious diseases usually are not being followed, ethical and logistical challenges are raised for program planners and implementers.

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Abstract

There has been a huge expansion in the private healthcare sector over the past two decades, particularly in South Asia, resulting in over 80% of patients seeking care from private health providers. Despite concerns about the quality and equity of private sector service provision, most government public health bodies recognise that the private sector reaches individuals that public institutions cannot cater to, thereby being important in moving closer to universal health coverage. Numerous initiatives have been launched and are being planned to involve private practitioners in effectively diagnosing, reporting and managing infectious diseases such as tuberculosis. However, there is a notable dearth of papers discussing which elements of private sector engagement strategies are more or less successful and the ethical issues that arise when engagement strategies are operationalized. This paper brings together the authors' experiences of working on projects to engage private allopathic health providers in Pakistan, Bangladesh and India for improved tuberculosis control. Motivations of and strategies required to engage private allopathic health providers, specifically doctors, diagnostic laboratories and pharmacies, and some of the ethical issues that arise when designing programs for engagement are discussed.

Introduction

Private health care providers play a major role in delivering health services in most low-income countries, including to the poorest communities (Bennett et al., 1997, WHO, 2000). South Asia in particular has experienced a huge expansion in the private healthcare sector over the past two decades, resulting in the region having the highest rate of private-sector healthcare utilization globally. It is estimated that 80% of all patients in South Asia attend private facilities for their healthcare needs, including tuberculosis (TB) diagnostic and treatment services (Shaikh and Hatcher, 2007, 1995). In India, for example, 93% of health facilities belong to the private sector (Chakraborty, 2013).

There are mixed views on private sector provision of healthcare, especially to vulnerable populations. Increasing involvement of private providers for health services delivery is often perceived as a possible mechanism for governments to reduce their commitment and responsibility towards equitable health-care provision. The private sector is also criticised for the variable quality of service provision. For example, many private providers are known to diagnose and treat inappropriately a range of diseases, including infectious disease such as TB and HIV which are then spread to others (Uplekar et al., 2001, Sheikh et al., 2006). Inappropriate and incomplete treatment of infectious diseases increases patients' risk of developing drug-resistant disease, which has already become a major challenge for TB control (Atre and Mistry, 2005).

However, even in light of the variable service provision, most government public health bodies recognise that the private sector reaches individuals that the public institutions cannot cater to, thereby being important in moving closer to universal health coverage. Private facilities often have a much wider geographic spread and offer more convenient opening timings than public facilities; the latter has been shown to be related to a higher number of male TB suspects visiting the centre (after working hours). National TB Control programs are aware that engaging private providers in TB

diagnosis and treatment can result in increased case-detection rates and acceptable case holding (Ambe et al., 2005). Thus, there is increasing interest in Public-Private Partnerships (PPPs) in TB control.

Despite the growing interest in involving private practitioners in TB diagnosis and case management, most literature on this topic focuses on reporting improvements in case-finding, cost-effectiveness and the level of case-holding achieved through different interventions (Floyd et al., 2006, Khan et al., 2012, Pantoja et al., 2009, Ferroussier et al., 2007). Reviews of the literature suggest that the effect of PPP on TB case-detection varies greatly across projects (Dewan et al., 2006, Mahendradhata et al., 2007), and there is a notable dearth of papers discussing which elements of private sector engagement strategies are more or less successful, and the ethical issues that arise when engagement strategies are operationalized. Hence there is limited information available to new private sector engagement initiatives on what incentives private providers are really attracted by, and what features of collaborations become hindrances. Such experience sharing is essential to the initiation of new and improved initiatives to collaborate with private health providers (Mills et al., 2002).

This paper brings together the authors' experiences of working on projects to engage private allopathic health providers in Pakistan, Bangladesh and India in TB diagnosis, treatment and reporting. A summary of key PPP initiatives the authors have been involved in and lessons learnt is presented in table 1.

Defining the non-homogenous private sector

When the private health sector is discussed as one body, it gives the impression that different providers composing the private health sector are fairly similar. In reality it makes little sense to discuss the 'private sector' as one group as the providers are so diverse in their service provision and

motivations. Initiatives to collaborate with private providers on TB control largely focus on allopathic doctors, possibly because this group is the easiest to access and negotiate with. However, a much wider range of private providers manage TB patients in the developing world. In some settings, particular rural and low-income areas, allopathic doctors are not the main health care provider operating.

Broadly, private providers include persons operating outside of the government financed system alone or in groups to provide diagnosis, treatment or advice to individuals for health-related concerns. Providers belonging to the allopathic system include not only doctors and nurses, but also pharmacists, laboratory technicians, midwives and community health workers. The level of training varies greatly; some private practitioners will have no training and may claim to have qualifications that they do not have whereas others will have several years of specialist training. The range of providers belonging to the non-allopathic systems of medicine vary greatly by setting and include homeopaths, Ayurvedic trained practitioners, traditional healers that use 'home-made' remedies and religious healers that generally suggest prayers or rituals to combat illnesses. Private providers also vary in terms of the fees charged with some being highly priced and accessible only to a fraction of the population while others provide services free of cost (some NGOs, religious healers etc.). Private providers operate in formal and informal settings ranging from large hospitals to roadside stalls.

Because it is such a non-homogenous group, strategies for engagement may not apply to all actors. Successful engagement of private providers requires recognition of the diversity and tailoring of strategies, even within a single initiative to the different types of provider. The following three sections discuss motivations of and strategies required to engage private allopathic health providers, specifically doctors, diagnostic laboratories and pharmacies and some of the ethical issues that arise when designing programs for engagement.

Private doctors

Hierarchies and differences in motivation

The first point to consider when engaging private doctors is that this is not only a non-homogenous but also a hierarchical group. Providers falling into this category range from untrained or partially trained 'doctors' (quacks) to renowned chest specialists. The hierarchy amongst doctors means that specialists do not like to be grouped with less trained doctors when it comes to educational meetings and formal recognition. The types of incentives that appeal to different subsets of doctors also vary. Attempts to involve private doctors in the projects in India and Pakistan (table 1) revealed that less established doctors are generally more enthusiastic about being associated with national disease control programs and can be incentivised by provision of signage above the clinic, advertising through flyers/newspapers and recognition on World TB Day as this gives them credibility and publicity. An increase in credibility, patient load and therefore revenues is considered a major benefit of engaging in programs. Doctors that are experienced and already have a large clientele are less interested in publicity and monetary incentives and are generally more interested in being involved in publications or senior advisory roles. The latter are often harder to convince to follow standardised diagnostic and treatment practices.

Ethical challenges in engaging the full spectrum of 'doctors'

A serious ethical question that arises when designing a strategy to engage private doctors is how far PPP projects should go in checking whether doctors are truly qualified, and how to proceed if they find 'doctors' who are not fully qualified. In most South Asian countries, including Pakistan, India and Bangladesh, there are few mechanisms or resources available to monitor and regulate the private sector; thus the reality is that untrained providers do run active clinics. We found that doctors that are least qualified often have the lowest fees, and therefore see the highest number of poor patients

who are at risk of TB and other infectious diseases. Avoiding engagement with low-qualified providers means that patients seeking care at their clinics potentially receive incorrect diagnoses and treatment, and an opportunity to improve knowledge, practices and case-detection in the subset of 'doctors' that may need it most is lost. However engaging with untrained providers posing as qualified doctors gives them legitimacy and is particularly challenging when projects are led by government agencies. Untrained providers are often reluctant to participate in projects with governments or public health groups for fear of being exposed.

Logistical challenges in collecting data

A practical challenge in engaging doctors on a large scale is the human resources required. Firstly, for most cities in developing countries the majority of clinics will not be listed in any organised document, so an investment may be needed to identify clinics in the intervention area before a project can be started.

As discussed in the introduction, the number of private clinics is vast, and because TB is a relatively rare diagnosis, the average number of TB suspect and cases identified at each doctor's clinic per day is usually small. It is therefore unsustainable to have a full time PPP project staff member positioned at each clinic to identify and collect the required data from TB suspects, which some project have tried. Other projects use existing staff at the doctor's clinic - either the doctor themselves or an assistant if available – to collect information essential for national TB programs to register and monitor cases. Reliance on clinic staff however is a major reason for PPP projects breaking down; GP clinics are often very busy (with non-TB patients), so doctors have little time to complete paperwork for the project. In all the settings we worked in, we found that maintaining any written patient records is alien to the majority of GP running small low-cost clinics. Furthermore, even if paper records are maintained, it is a logistical challenge for projects teams to collect these from the numerous participating doctors. The Indian government has recently made a commitment to

increase reporting of TB cases diagnosed by private doctors, allowing doctors to treat patients themselves and allowing use of public diagnostic centres (EH News Bureau, 2013). However, despite policies encouraging reporting by the private sector, the logistics of large-scale information transfer have not been worked out. Use of simple mobile-phone based data collection systems that allow instant data transfer and validation could address this challenge. A mobile-phone based data collection system was implemented successfully in the projects in Pakistan and Bangladesh and the Pakistan National TB program has shown interest in piloting such a system to assess whether it is more cost-effective than using field officers to physically collect data forms.

Strategies to encourage doctors to follow guidelines

To increase awareness and motivation for doctors to follow international or national guidelines for management of TB, many projects hold regular training sessions. While training and re-training is important for maintaining a good level of service provision and many doctors express interest in free training courses, we found that there is often a low turnout to training sessions because being away from their clinic results in loss of income. Similarly, a recent study in India reported that the majority of private doctors have not attended any National TB program training in the past five years (Yadav et al., 2012). Our interactions with doctors in all three countries indicated that it is very important to consider their lifestyles and to make participation attractive and easy. For example, PPP project planners can learn from pharmaceutical companies that send sales representatives to visit doctors in their clinics rather than trying to gather them in one place. Of course this is a very labour intensive and costly strategy. A more cost-effective and innovative way to connect with doctors may be to invite (similarly trained) groups to events on Sundays with their families and do a learning session there; this is something doctors in Pakistan expressed interest in but we did not test this strategy in our work.

Our project experiences also showed that that even doctors with recognised medical qualifications often follow improper TB diagnostic and treatment practices (Greaves et al., 2007) and that training alone may not change practices. Incentives are required, for example to ensure that doctors inform TB patients of their diagnosis and provide them the correct course of treatment rather than giving them a more socially acceptable diagnosis for ‘customer satisfaction’ (Greaves et al., 2007). However the ethics of incentivising doctors to do what many would consider a medical responsibility is questionable.

Private diagnostic laboratories

From a project planning point of view, in urban centres private laboratories usually see a much greater number of TB suspect than individual clinics. This is because several clinics will refer TB suspects to a single nearby laboratory for testing. The private sector engagement initiatives in Karachi, Pakistan and Dhaka, Bangladesh positioned private laboratories as the primary point to identify TB cases diagnosed in the private sector and found that this was a more effective use of human resources than screening at a larger number of doctors’ clinics.

Business model drives behaviour of private laboratories

Through prolonged engagement with seven private laboratories in Karachi and four in Dhaka we learnt that while doctors are most concerned about keeping their patients satisfied to get repeat visits, for commercial laboratories the main stakeholder is the referring doctor. In fact, a percentage of the diagnostic test fee is often given to doctors as an incentive to refer patients to a particular laboratory. Therefore, any actions that will upset the referring doctor – for example by relaying information about a confirmed positive TB test result to anyone other than the referring doctor or directing a diagnosed TB patient to a free treatment centre rather than back to the referring doctor – are unlikely to be undertaken. During our work with private laboratories we often saw that illiterate patients are handed a report stating that they have a positive smear-test result, but

because patients are unable to read it or because they cannot afford a follow-up consultation with their doctor, they do not act upon their test results and delay treatment initiation. It would be beneficial to patients if laboratories could provide some counselling about to patients as soon as the diagnosis is confirmed and make them aware of the availability of free treatment, but doing this would adversely impact relationships with the referring doctors who want patients to return to them.

While there is limited research on this, there is evidence that the quality of diagnostic testing in commercial labs is highly variable (Codlin et al., 2012). Candid discussion with commercial laboratory owners in Pakistan and Bangladesh revealed that keeping the cost of the test as low as possible, rather than providing a higher cost and higher quality diagnostic service makes most business sense. This is because having a low test cost results in more poor patients using the lab, provides a greater margin to provide incentive payments to doctors and allows a greater profit margin for lab. Investing in highly trained lab technicians or ensuring that a minimum time is spent on examining each slide would improve quality of results but would not increase profits. Therefore, offers from projects of free training or equipment that improves test quality but adds to the cost of performing tests are not appreciated as much as is expected by PPP project planners.

Incentives to engage private laboratories

In our experience the biggest incentive that can be offered to commercial laboratories is any support that increases patient load and therefore revenue. Activities that raise the laboratory's profile with doctors, such as promoting the laboratory during medical education seminars, are perceived very favourably. Free advertising on the radio, television or in print media can also be used by projects to both increase awareness of TB and of laboratories that patients can go to for testing. For example, in Pakistan names of commercial laboratories that agreed to participate in the PPP project were highlighted in a radio and television advertising campaign; this benefited the project by directing

patients with TB symptoms to participating (quality-assured) laboratories and incentivised participating labs by increasing their revenue. Another incentive used during the same project was to offer free Xpert/RIF machines to participating laboratories and allow them to charge patients for the cartridges and for running the test. This was not as attractive because the cost of Xpert/RIF cartridges was too high for patients in Pakistan to afford and therefore demand was very low. The laboratories therefore viewed the Xpert/RIF machine as an expensive piece of equipment that they were not able to generate much revenue from.

Pharmacies

Quality of medical advice and drugs being provided is questionable

The size and set-up of pharmacies in South Asia varies considerably, from large modern establishments that form part of a countrywide chain to small stand-alone shops. As there is limited regulation and enforcement of who is allowed to sell what types of drugs, it is common to find untrained individuals running pharmacies and to find substandard medicines being sold. During exploratory work in India it was found that pharmacists often register a pharmacy under their name and then hire a lower waged lay person to run the pharmacy and (often incorrectly) prescribe medicine to customers. Pharmacists and untrained individuals running pharmacies are often keen to attend courses that improve their medical knowledge. Running such courses also benefits PPPs by increasing awareness of TB symptoms amongst paramedics. However, as with GPs, attempts to run offsite training sessions are usually unsuccessful because staying away from the pharmacy results in a loss of income. Alternative methods of awareness raising include visits to pharmacies or educational leaflets.

Strategies to increase early referral and provision of good-quality drugs

In order to ensure that patients have access to good quality anti-TB drug, most PPP initiatives try to persuade pharmacies to refer patients for free treatment to designated treatment centres or

provide quality-assured drugs to selected pharmacies. When attempting to engage pharmacies in Pakistan and Bangladesh, we found that since pharmacies earn their revenue primarily from selling drugs, there is a conflict of interest when PPP projects require them to refer patients to centres that provide free treatment. However pharmacies may consider referring patients who complain of a persistent productive cough for a free sputum test after earning their income from selling patients some cough medicine first; this unfortunately often results in a delay in TB diagnosis. To overcome the conflict of interest of referring patients to alternative centres to get free drugs, the TB control program in Bangladesh engages selected pharmacies to act as official centres to administer daily TB medication. This works well because pharmacies are usually located more conveniently for customers than government centres and have longer opening hours. Some pharmacies participating in the PPP initiative in Dhaka that are located close to garment factories will open at 5am to provide TB medication to workers before they start their shift. To encourage such collaboration, programs can provide monetary incentives to pharmacies for every TB patient they administer regular drugs to or pharmacies can be provided free TB drugs from the program and be allowed to charge a small visit fee from the patient. 'Drugs-for-performance' agreements have been used successfully in several PPPs(Lonnroth et al., 2006).

Summary: key challenges and questions

Impactful engagement with for-profit providers requires an understanding of the different types of providers operating in the setting of interest and of their business models and priorities. However, through our work in South Asia we found that understanding private providers' priorities and business models also raises ethical and logistical challenges for programme planners. Some of the key challenges and questions that need to be addressed in order to build effective PPPs are:

- 1. Encouraging earlier and appropriate testing of TB suspects presenting to private providers*

Early diagnosis of TB cases presenting to private provider is essential for reducing TB transmission. In our work with private doctors we identified several barriers to earlier testing for TB: doctors often

do not think of TB when they see a patient with prolonged cough (unless they have recently been sensitised to TB symptoms); even if doctors suspect TB they prescribe non-specific blood tests rather than sputum microscopy or chest x-rays; doctors are reluctant to refer poor patients for laboratory tests as they know the patient cannot afford these and instead they prescribe medicines to address symptoms.

We found that providing free sputum testing to symptomatic patients in Pakistan and Bangladesh was very effective at motivating doctors to refer TB suspects for earlier testing; doctors were able to strengthen their relationship with patients by telling them that they were helping them to get free tests, rather than having to convince patients to pay out of pocket. Guidelines on national and international standards of TB care are important resources for sharing of up to date information for managing TB patients as such information is often poorly taught in medical schools. However, transfer of knowledge to busy private doctors remains a challenge. In our experience doctors were reluctant to leave their clinics to attend workshops; desk guides with easy to follow summaries of TB management guidelines are often provided to private doctors but we did not investigate their effectiveness in our projects.

2. Developing sustainable systems to monitor treatment, as well as to transfer data to NTPs

Private providers are generally unwilling to monitor adherence to treatment or treatment outcomes due to the time commitment required. Strategies to address this include developing simpler recording and reporting systems (including mobile-phone based systems), incentivising doctors for monitoring in order to compensate for the time they could have spent seeing additional patients, training other clinic staff who are not as busy as doctors to help with monitoring, or to avoid relying on private providers for monitoring data and to allocate this task to project or NTP staff. Placing project or NTP staff at specific private providers to assist with monitoring and reporting only works efficiently at larger clinics or private labs where there is sufficient patient load to justify investment of a dedicated human resource; however this strategy should not be ignored, as one data collector

placed at a private laboratory may find more new TB cases than a small government TB centre employing numerous staff.

3. *Determining how to assess quality of service and competence level of the provider;*

whether/how to engage with providers who are poorly skilled but seeing many patients

As described, we found a wide range of competence and service quality among doctors, laboratories and pharmacists owing to the lack of enforcement of regulations in low-resource settings. It is challenging to objectively assess the quality of care provided by doctors or the accuracy of testing provided by private laboratories. Using patient-actors to provide known-positive specimens to laboratories worked effectively for us in Pakistan and can be replicated elsewhere (Codlin et al., 2012). Patient-actors can also be used to assess doctors' behaviour, although we did not use this method in our projects. A bigger question is how to act on information about substandard service quality, particularly among low-cost providers that see a large number of patients. It is often easier to try and engage with such providers and improve their service quality than to try and shut them down; however if there is no improvement after continued engagement and there is potential for harm to patients (for example through false negative laboratory diagnoses), then serious ethical dilemmas arise about sustaining engagement.

4. *Use of patient and provider level incentives*

Economic incentives to providers, also known as pay-for-performance bonuses, and to patients, in the form of vouchers and conditional/unconditional cash transfers, are being used in several settings to improve TB case-finding or adherence to treatment (Richter et al, 2014). The impact of providing incentives on TB-related outcomes as well as on the wider health system is yet to be evaluated in low-resource settings, and we did not use any monetary incentives in our projects. We found that NTPs were reluctant to encourage introduction of monetary incentives by short-term projects as this creates expectations in patients and health providers that cannot be met once the project has ended.

There are still several unknowns when it comes to designing effective, sustainable initiatives to engage the range of private providers operating in low-resource settings. It is known, however, that private providers' are serving the majority of patients in South Asia. Therefore, sharing experiences of and evaluating (from a health systems perspective) PPP initiatives is essential to developing ethically sound strategies to effectively incentivise and engage with the complete spectrum of providers.

Table 1:

Project objective and setting	Private sector engagement strategies applied	Response to strategies
Improving TB diagnosis and management by private laboratories in Dhaka, Bangladesh	<ul style="list-style-type: none"> • Signed agreement with (low cost) laboratories across the city to collaborate by sharing data with NTP • Provided training to improve sputum-smear testing quality in laboratories • Placed Xpert-RIF machines in labs to be used for x-ray suggestive, smear-negative TB suspects • Stationed project-funded health workers at participating labs to screen for TB suspects and refer suspects for microscopy after providing instructions on sputum submission technique and collect data on test results • Sputum-smear microscopy and chest x-ray provided to patient free of charge (lab billed project at the end of each month) • Reduced rate for sputum-smear microscopy and x-rays negotiated as a 'bulk buyer' 	<ul style="list-style-type: none"> • Training on microscopy was well received and errors in techniques were corrected • Stationing of project worker was effective for ensuring timely data collection according to project specifications; space available (for a desk etc.) was limited • Provision of free tests to patients was a positive incentive to patients and referring doctors and appeared to encourage earlier testing. It was also the main driver of lab participation as revenue from TB testing increased after joining the project • Paying labs on a monthly basis worked efficiently from the project's perspective and the lab's perspective as laboratories were accustomed to monthly billing of corporate clients • Lab owners were less interested in getting free Expert-RIF machines than expected; this is because the test is new and relatively unknown to doctors and laboratories did not envisage much demand for the relatively expensive test in the near-term • Differences in legislation meant that advertising of free TB testing was only allowed in Karachi but not Dhaka
Improving TB diagnosis and management by private laboratories; engaging doctors and pharmacies referring patients to private laboratories in Karachi, Pakistan	<p>All of the above plus:</p> <ul style="list-style-type: none"> • Collaborated with the private doctor network referring patients to each lab; provided free TB drugs (from the NTP) to confirmed cases, to be supervised by the referring doctor • Advertised on billboards, TV and radio to increase awareness of TB symptoms and inform patients that free TB testing is available in participating laboratories • Provided 'free sputum test' vouchers to doctors and pharmacists to encourage suspect referral to participating laboratories 	<ul style="list-style-type: none"> • Most private doctors felt PPP were feasible. Some indicated that sustainable PPPs were contingent on the public sector maintaining referral records and incentivizing referrals • Having an FMO proved to be of benefit in resolving doctors' clinical queries • The following feedback was received at the post training evaluation: the TB/HIV co-infection session was most appreciated; training sessions should be restricted to the promised time; more time for discussion should be allocated; request remuneration and certificates to attend training • Feedback to private doctors about their referrals was highly appreciated, and encouraged more referrals.
Exploring motivations of and strategies to engage private doctors in Maharashtra India	<ul style="list-style-type: none"> • One-to-one sensitization of private doctors: The project staff accompanied by a Field Medical Officer (FMO) visited private doctors in their clinics, sensitized them to TB /HIV and explained how a PPP would help them and their patients. • Group trainings conducted in a hall located in premises of government hospital over 3 hours on Saturday afternoon; three sessions (TB, HIV and co-infection) presented by government officials responsible for these programmes • Tools for referral and feedback across the public and private sectors designed and implemented at both the ends. 	<ul style="list-style-type: none"> • Most private doctors felt PPP were feasible. Some indicated that sustainable PPPs were contingent on the public sector maintaining referral records and incentivizing referrals • Having an FMO proved to be of benefit in resolving doctors' clinical queries • The following feedback was received at the post training evaluation: the TB/HIV co-infection session was most appreciated; training sessions should be restricted to the promised time; more time for discussion should be allocated; request remuneration and certificates to attend training • Feedback to private doctors about their referrals was highly appreciated, and encouraged more referrals.

Commented [I1]: What is an FMO?

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