

ENGAGING PRIVATE HEALTH CARE PROVIDERS IN TB CARE AND PREVENTION: A LANDSCAPE ANALYSIS



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Suggested citation. Engaging private health care providers in TB care and prevention: a landscape analysis. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at <http://apps.who.int/iris>.

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Acknowledgements

The writing and overall coordination of this document were led by World Health Organization Global TB Programme and the Public–Private Mix Working Group of the Stop TB Partnership. It reflects feedback from participants at the 13th PPM Working Group Meeting in Guadalajara, October 2017, as well as from the WHO Strategic and Technical Advisory Group at its June 2018 meeting in New York.

This document is based on a landscape analysis originally developed under contract to the Bill & Melinda Gates Foundation. Preparation, publication and launch of this document were financially supported by a grant from the United States Agency for International Development (USAID).

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Executive Summary

Private sector engagement needs to be urgently expanded to reach End TB

TB is preventable and curable, but current efforts to find, treat and cure everyone who gets ill with the disease fall short. Of the 10 million people who fell ill with TB in 2017, only 6.4 million were officially notified to national authorities and reported to WHO. Sixty two percent of the 3.6 million “missing people” with TB were in seven countries in which private providers accounted for more than two thirds of initial care-seeking. However, in these countries, private for-profit providers contributed just 19% of total TB notifications, equivalent to only 12% of estimated TB incidence in 2017. Closing gaps and ensuring early access to diagnosis and treatment will require strengthened and expanded private provider engagement. Engaging private providers is also essential for reducing unnecessary deaths and suffering caused by inappropriate treatment, slowing the emergence of drug resistance caused by substandard care, reducing transmission by shortening delays to treatment, reducing catastrophic costs and impoverishment, and accelerating uptake of new tools.

As countries move towards Universal Health Coverage (UHC) and reaching the TB-related targets in the Sustainable Development Goals and End TB Strategy, they need to harness the full potential of private providers. TB programmes can be pioneers in this area by accelerating the strategic engagement of private health care providers.

Moving from Policy to Practice: We know how to do it

The need to engage private healthcare providers for TB has been acknowledged since the early 1990s, and has featured briefly in many global and national strategies and plans since 2001, including the recent WHO End TB Strategy and the Stop TB Global Plan to End TB. Since 2002, WHO has issued and revised a dozen guidance documents addressing various aspects of Public-Private Mix, including how to engage private providers, how to advocate and plan for their engagement, and how to measure progress. Published literature on private provider engagement has increased significantly: a systematic review in 2015 found 78 studies, covering 48 projects in 15 countries (1). Much has been learnt about how to successfully engage private providers for TB care, although there remains considerable room for adaptation and innovation. However, this issue has not had priority or investment commensurate with the scale of the problem. While a plethora of pilot projects exist, few countries have taken public-private mix approaches to scale, and private provider engagement (PPE) has been one of the most difficult TB technical areas to move from donor to domestic funding.

A root cause of this has been a strong public sector preference among those who manage TB programmes and those who fund them. It also reflects the ongoing journey, not specific to TB programmes, in which the public sector only gradually gains capacity to govern private health providers effectively, as countries develop. In recent years, a changing mindset towards the private sector has been evolving, with countries such as India, Bangladesh, Myanmar and Pakistan achieving significant scale in private provider engagement.

In these countries, engagement of large numbers of private primary care providers has been led by strong non governmental organizations (NGOs) acting as intermediaries between providers and National TB Programmes (NTPs). Recently, India has begun to demonstrate unprecedented commitment to engaging private providers by setting ambitious targets (2 million private TB notifications per year by 2020), allocating substantial budgets and mobilizing strong political support at all levels. The Philippines and Indonesia,

which had previously focused attention on engaging relatively small numbers of high-volume private hospitals, have recently begun to expand engagement of private primary care providers and redouble efforts to leverage social health insurance schemes. Indonesia is pursuing a model based more on engagement directly from the public sector to private providers with the support of professional associations, rather than using other intermediary organizations.

Strengthening private provider engagement: What more is needed

Support for private provider engagement by external technical and financial partners of NTPs should be based on an appreciation of underlying systemic constraints as well as proximal determinants. There is a role for guidelines, plans, strategies and pilot projects, but they need to be complemented by efforts to increase basic understanding of patient and provider behaviors and of approaches to exercising stewardship over the whole health sector. On the public sector side, it is important to build system capacities for strategic purchasing for both curative and public health services: mandatory notification decrees and other regulatory approaches have a role, but most effort should go into the development and deployment of enablers and motivators to encourage private provider participation. On the private side, there is usually a need to empower intermediary organizations capable of engaging and aggregating large numbers of private providers on behalf of the program, at least until such time as social health insurance or other large-scale purchasing platforms are developed and mature.

Emerging opportunities for increased engagement

Several developments could facilitate a major increase in private provider engagement for TB in the coming years. Success in India, Bangladesh or Pakistan could set an example for other countries and inspire them to be more ambitious. The digital revolution is finally reaching TB: new digital technologies facilitate the engagement of private providers by transitioning from paper-based data to digital, case-based registration systems. Such systems enable additional innovations that further facilitate private provider engagement at scale, such as digital vouchers for drugs and diagnostics, adherence monitoring technologies, and digital payment of incentives and enablers to both patients and providers. Access to new and improved diagnostic and treatment tools, such as digital chest x-ray, Xpert MTB/RIF and shorter MDR-TB regimens, has increased the potential value to private providers of engaging with the public sector. Social health insurance schemes in some countries are approaching full population coverage and will provide an opportunity to drive quality of TB care in the private primary sector. Both social health insurance expansion, and the UHC movement in general, are also increasing the awareness of the need to engage private providers in order to reach true UHC. This is all in the context of renewed high-level attention towards closing the gaps in care, as indicated by the 2017 Moscow Declaration to End TB, the Global Fund Strategic Initiative on Finding the Missing people with TB, and the newly launched "*Find.Treat.All. #EndTB*" Joint Initiative of WHO, Stop TB Partnership and the Global Fund.

A call to action: taking engagement of private providers to scale

Engagement of private providers on a scale commensurate with their importance will require a transformation of the TB response in countries. This will include new partnerships, modern data systems, new payment mechanisms, new skills, and different attitudes.

In high-burden countries with large private healthcare sectors, NTPs and their partners should:

- 

Build understanding about patient preferences, private sector dynamics and the rationale for engaging all providers
- 

Establish a supportive policy and regulatory framework
- 

Set appropriately ambitious PPM targets
- 

Adapt flexible models of engagement applicable to local contexts
- 

Advocate for political commitment, action and investment in PPM
- 

Harness the power of digital technologies
- 

Allocate adequate funding for engaging all providers, including by capitalizing on financing reforms for Universal Health Coverage
- 

Deliver a range of financial and non-financial incentives and enablers
- 

Partner with and build the capacity of intermediaries and key stakeholders
- 

Monitor progress and build accountability

By embracing the lessons learned from nearly 20 years of efforts to engage private providers and taking them to appropriate scale, TB programmes can help drive universal health coverage.



1 INTRODUCTION

Background, purpose and outline of document

TB is responsible for more deaths (1.6 million in 2017) than any other infectious disease. In 2017 there were an estimated 10 million TB cases worldwide, and up to one-third of the world's population has latent TB infection (2). Efforts to combat TB are receiving increasing global attention, as evidenced by the first WHO Global Ministerial Conference on Ending TB, held in Moscow in November 2017 which brought together Ministers, and the first-ever United Nations General Assembly High-Level Meeting on TB which brought together Heads of State in September 2018. Policymakers' attention has been drawn to the more than 3.6 million "missing people with TB" (the gap between the number of cases diagnosed and notified by official TB programmes and the estimated annual incidence) and, because many of them are assumed to be accessing treatment in the private sector, this has led to renewed interest in engaging private providers.

Since 2001, WHO and its partners have offered support on engaging private providers for TB prevention and care, the need for which has been recognized in global TB strategies since 2006. Since 2002, the Public Private Mix Working Group of the Stop TB Partnership (formerly a sub-group of the DOTS Expansion Working Group) has held 13 global meetings on the subject. Several WHO guidance documents have been issued¹ and a number of major reviews of the literature have been published (1–5). While considerable experience has been gained in a wide range of health market contexts, and some countries have made more sustained progress than others, overall engagement of private providers remains weak considering the important role of private providers in many high-burden countries. An essential premise of this document is that global and national goals in TB cannot be achieved unless private providers are engaged on a scale commensurate with their role in health systems.

In this context, the purpose of this document is ultimately to facilitate improved engagement of private providers, thereby contributing to universal access to quality and affordable TB care and the end of the TB epidemic. It focusses on the role of private for-profit providers and on specific challenges and experiences in engaging them for TB prevention and care.

Part 1 begins with a short review of the role of private healthcare providers in low- and middle-income countries – a role that is often important but that typically receives insufficient attention in official health strategies and programmes. It also explains why engagement with private providers is essential for the achievement of all major TB objectives, not just finding the "missing cases". Published evidence on the extent and effectiveness of private provider engagement initiatives is summarized, together with the evolution of WHO guidance on private provider engagement. The section concludes with an analysis of recent data on the extent of private provider engagement for TB in high-burden countries, contrasting the number and percentage of private TB notifications with the importance of private healthcare in those countries. This data is new, and distinct from the data that has been presented in global TB reports, in that it distinguishes private for-profit providers from NGOs and faith-based organizations.

Part 2 consists of a detailed reflection on some of the issues involved in private provider engagement, beginning with an analysis of the many constraints that have to be overcome if such engagement is to be taken to scale. It suggests that TB programmes may learn from and be inspired by efforts in other health

1 Listed on page 11, below.

areas. Institutional models for private provider engagement are identified and discussed. It suggests some lessons learned regarding how to engage private providers, and how external actors can stimulate increased engagement of private providers. It includes a discussion of indicators and measurement challenges. It concludes with a review of the roles and characteristics of major implementers, technical assistance organizations, and funders.

Part 3 presents brief summaries of private provider engagement in eight countries.

Part 4 turns to the future. It begins with a reflection on principles underlying change in complex, adaptive, health market systems, suggests a number of trends in low- and middle-income countries that are likely to facilitate improved private provider engagement for TB, and concludes with recommendations for national TB programmes and their technical and financial partners.

Scope and definitions

The focus of this work is the engagement of private health care providers for TB prevention and care. Health care refers primarily to the diagnosis and treatment of TB in this case, although of necessity we will address public health functions such as surveillance and data management, patient support, contact tracing, etc. We exclude general health promotion and primary prevention of TB, and we do not address the activities of companies that are not primarily dedicated to healthcare. We focus on healthcare providers (hospitals, independent practitioners, pharmacies and laboratories, including companies that operate chain outlets) rather than manufacturers or distributors of medical technologies.

Strictly speaking, “private” means “non-state” and embraces the non-profit sector as well as the for-profit sector. This analysis focusses on for-profit healthcare providers because they are more numerous and important than non-profit organizations, and much more difficult to engage. Non-governmental organizations (NGOs) are therefore addressed here as intermediaries that often engage for-profit providers, rather than as direct service providers. NGOs, and especially faith-based organizations (FBOs), do play a very important role as providers of healthcare (owners and operators of dispensaries, clinics and hospitals) in many countries. While many NGO or FBO facilities charge user fees that are sometimes comparable to those of similar for-profit providers, NGO and FBO providers differ substantially from most for-profit providers in their orientation and, critically, in their relationship with government: in many cases, they are already integrated into public health systems.² China is a special case, where hospitals are publicly owned but behave like private hospitals elsewhere.

In TB, the term “public-private mix (PPM)” embraces engagement of non-profit healthcare facilities³, as well as for-profit facilities and providers (6). Since 2004, WHO has expanded the acronym PPM to include “public-public mix” – efforts to ensure that all publicly-owned healthcare facilities (e.g. public medical colleges) conform to NTP guidelines and reporting systems – as well as public-private mix.

While most countries could improve their engagement of public providers and NGO/FBO providers, this analysis focusses on engagement of private for-profit providers because (i) the issues involved in engaging non-profit facilities are more similar to those of engaging public facilities than those of engaging for-profit facilities and providers; (ii) engagement of for-profit providers has been much more difficult than engagement of either non-profit providers or other public providers; and (iii) in many settings, engagement of for-profit providers is much more important for TB prevention and care at this stage because they have a much greater share of the healthcare market.

2 In Tanzania, the National TB Programme categorizes FBOs with government facilities for purpose of TB case reporting, monitoring and evaluation, while in Zambia they are referred to as “semi-public”.

3 And community-based organizations (CBOs), but only if they either do clinical service delivery or refer to other PPM providers. I.e., CBOs that do case finding then refer to public sector are not included.

Plus ça change, ...

The assessment confirmed earlier findings of both a substantial TB caseload and unsatisfactory management practices in the private health sector. The consequences include high morbidity and mortality, a heavy socio-economic burden and the serious risk of drug resistance. If private providers continue as alternative sources of poor quality TB care, DOTS programmes face the prospects of low case finding and a dilution of the epidemiological impact of strengthened TB prevention and care efforts in the public sector. But the private health sector can also be viewed as a valuable resource, close to and often trusted by communities. ... In practice, most NTPs have ignored the private health sector and opted to deliver services through government channels. The wisdom of such an approach is questionable, particularly in many high-burden countries with large private health sectors. In these countries, there is a compelling case for collaboration with private practitioners in the delivery of TB care.

The above text is taken from a 2001 WHO report that summarized the findings from a situation analysis of private provider engagement for TB, conducted in 23 countries during 1999–2000 (7). The report remains fundamentally valid and insightful 17 years later, even if much has changed: increased concerns about MDR-TB; higher estimates of TB burden; improved understanding of the importance of private providers in TB; expansion of social health insurance in a few countries; major improvements in TB diagnostics and treatments; the emergence of the Global Fund to spearhead increased funding; higher incomes and urbanization. Perhaps the most rapid change has been in information and communication technologies. In the last three years, there has also been some innovation in private provider engagement for TB in a few countries, and some models show signs of the potential for sustained scale. But this field remains woefully inadequate in most high-burden countries, especially those with the highest burden of missing cases.

Private healthcare in low- and middle-income countries

There is extensive literature on private healthcare in low- and middle-income countries.⁴ In most low- and middle-income countries, private providers are an important source of healthcare for all socio-economic strata: typically, the less-poor tend to make more use of formal and qualified providers, while the poor often turn first to informal and unqualified providers. Private providers often account for 50%-70% of care, especially outpatient primary care and especially in urban areas (Table 2).

Table 1. Percent of population that used private sources of care for childhood diarrhea, cough and/or fever, 2000–2011⁵

Region	Total	Poorest 20%	Least poor 20%
South-east Asia	66%	63%	81%
South Asia	79%	80%	85%
Sub-Saharan Africa	51%	52%	52%
Latin America, Caribbean	34%	23%	61%

In most low- and middle-income countries, private healthcare providers are varied, numerous and generally unorganized. The main types of private provide are summarized below.

4 See, for example, the articles in the Lancet Series “Universal health coverage: markets, profit and the public good” (26 June, 2016); and the book entitled *Private Health Providers in Developing Countries* (1997), edited by S. Bennett, B. McPake and A. Mills.

5 UCSF analysis of data from Demographic and Health Surveys 2000–2011. Population-weighted averages of respondents with children under 5 who sought care within prior two weeks for diarrhea and fever/cough. Survey data from 40 countries: <http://www.ps4h.org/globalhealthdata.html>.

Table 2. Types of private providers

Private provider type	Examples	Comments
Specialists (pulmonologists, chest physicians)	450 in Bangladesh; PDPI (Indonesia Pulmonologists' Society) in Indonesia	Very high case load but usually late in patient pathway and higher income; often challenge national protocols; key opinion leaders
High-end corporate hospitals	500 in India (eg. Fortis, Care, Apollo etc.) Private medical colleges: 67 in Bangladesh 1-2 in major cities of smaller lower-income countries	Often reluctant to address TB because of stigma and image Serve higher socio-economic groups Pathology, imaging, administrative capacity
Mid-size hospitals	~ 30 000 nursing homes in India	Access in secondary cities and major towns
Laboratories	9000 in Bangladesh; 30 000 in India (including 5 large networks)	Increasingly organized in networks
Pharmacies	25 000 Indonesia; 8200 in Kenya	Mainly in urban areas Chains emerging in some countries
Independent qualified general practitioners	60 000 Bangladesh; 97 000 Pakistan; 8000 Myanmar; ~70 000 Indonesia	Still mainly fragmented Represented by medical associations
Drug shops	200 000 in Bangladesh; 10 000 accredited drug-dispensing outlets (ADDOS) ⁶ in Tanzania; 40 000–200 000 private Patent Medical Vendors (PMVs), ⁷ in Nigeria	Often regulatory controversy about what they can and can't sell. May provide consultations.
Independent less-than-fully-qualified practitioners	300 000 in Pakistan; 3–4 unqualified providers per village (77% of all providers) in India	Often first point of care, especially in rural areas Often controversial Considerable overlap with the category of drug shops

The provider types listed last (informal providers, drug shops, independent qualified providers) are both far more numerous and more important for early care-seeking, especially for lower-income populations, and therefore for interruption of transmission. They are also more difficult to engage because of their large numbers, the relatively low case yield per provider, low administrative capacities, and the fact that in many cases they operate on the borders of legality. In contrast, specialists and hospitals are fewer in number, are easier to engage, can take on more complex tasks and may often have relatively high case-loads, but they also tend to serve high socio-economic groups and are unlikely to be the first providers consulted.

Why engage private providers for TB?

Failure to engage private healthcare providers for TB has five broad consequences:

- Increased transmission as a result of delayed diagnosis and treatment;
- Excess mortality and morbidity as a result of inappropriate treatment;
- Increasing drug resistance as a result of incomplete or incorrect treatment;

6 Accredited Drug Dispensing Outlets

7 Patent and Proprietary Medicine Vendors

- Unnecessary impoverishment as a result of the high cost of private care;
- Delayed and incomplete introduction of improved TB tools as a result of failure to penetrate private channels.

Data on most of these problems (treatment delays, catastrophic expenses, coverage of new tools, treatment outcomes amongst private providers) is scarce. This review follows much of the discourse on private provider engagement by focusing on “missing people with TB” as the problem and case notification as the key performance measure, but it is worth noting that engagement of private providers will also have important, harder-to-measure impacts on delays (and therefore transmission), impoverishment, treatment outcomes, drug resistance and uptake of new tools. In countries with dominant private healthcare sectors, the number of missing cases is a salient metric indicative of multiple problems that must be addressed if global TB goals are to be achieved.

Globally, WHO estimates that 10 million people fell ill with TB in 2017. Government programmes notified 6.6 million and the remainder – 3.6 million people with TB, or 36% of the total--are “missing”. Three countries – India, Indonesia and Nigeria – account for 46% of all missing cases, while a further 7 countries accounted for a further 34% (2). The absolute number of missing cases is determined by population size, TB incidence and the treatment coverage rate. The treatment coverage rate (which also influences TB incidence) is itself determined by the strength of the public programme, the size of the private healthcare market, and the quality of the TB programme’s engagement with private providers.

While some people with TB are asymptomatic and delay seeking care, most of the missing people with TB are thought to seek some kind of treatment from public or private healthcare providers, including those that do not fall under the purview of national TB programmes. There is some considerable degree of under-reporting of publicly-managed cases (particularly in public hospitals, which often fall under another section of the MoH that is administratively distant from the NTP), and there are many missed diagnostic opportunities in routine consultations in both public and private facilities.⁸ But in many high-burden countries the majority of the missing cases are likely to seek treatment from private providers at one or more points in their care seeking – and this private provider role is particularly critical in the countries at the very top of the high burden list.

8 For a summary of the missed case finding opportunities at different stages of the patient journey, see Wells WA. Onions and prevalence surveys: how to analyze and quantify tuberculosis case-finding gaps. *Int J Tuberc Lung Dis.* 2017 Nov 1;21(11):1101–1113.

Table 3. Basic data on TB, private providers and health finance, 10 countries with highest TB incidence, 2017

TB data, 2017	Notifications from private for-profit providers										Private provider role			Health finance			
	Population (millions)	Incidence rate per 100 000	Incidence (thousands)	Notifi-cations (new and relapse, thousands)	Treatment coverage	Missing cases (thousands)	% of global missing cases	MDR cases (thousands)	Number per year (all cases)	Per 100K population	% of esti-mated incidence	% of all TB noti-fications	% of initial care-seeking	Per prevalence survey	Private TB drug sales market share	Private % of total health expendi-ture	% of available NTP budget from external
India	1340	204	2740	1828	67%	912	25.3%	135	383 784	29	14%	21%	74%	46%	54%	74%	21%
China	1410	63	889	773	87%	116	3.2%	73							40%		2%
Indonesia	264	319	842	442	53%	400	11.1%	23	59 549	23	7%	13%	74%	46%	51%	61%	32%
Philippines	105	554	581	317	55%	264	7.3%	27	52 375	50	9%	16%	70%	21%	43%	68%	37%
Pakistan	197	267	525	359	68%	166	4.6%	27	79 332	40	15%	22%	85%		45%	69%	95%
Nigeria	191	219	418	102	24%	316	8.8%	24	4968	3	1%	5%	67%	22%	74%	74%	67%
Bangladesh	165	221	364	243	67%	121	3.4%	8	67 332	41	18%	28%	84%	30%	74%	74%	79%
South Africa	57	567	322	220	68%	102	2.8%	14						15%	44%	44%	8%
Democratic Republic of Congo	81	322	262	150	57%	112	3.1%	8				43%			44%	44%	96%
Myanmar	53	358	191	130	68%	61	1.7%	14	18 149	34	10%	14%	78%	38%	74%	74%	93%

Sources: WHO Global TB report (2018) except: private for-profit notifications from each NTP; % of initial care seeking from DHS surveys and TB prevalence Surveys; 2015 private health expenditure from WHO global health expenditure database; drug sales market data from Malhotra et al (2018)

As Table 3 indicates, dominant and largely-unregulated private health sectors are characteristic of seven of the top 10 countries ranked by TB incidence (the exceptions being China, South Africa and Democratic Republic of the Congo). In these seven countries, home to 57% of global TB incidence and over 62% of missing cases:

- Private providers are the destination for an average of 75% (range: 67–84%) of initial care-seeking;
- Private expenditure represents 61–74% of total expenditure on health;
- Private markets deliver 15–54% of total anti-TB drugs;
- Yet private for-profit notifications represent just an average of 19% (range: 5–28%) of total notifications and 12% (range: 1–18%) of estimated incidence.

While there are often concerns about quality of care in public facilities, there is also increasing evidence that quality of TB care in the private sector falls short of international standards in many places and urgently needs improvement (8).⁹ The evidence comes from systematic reviews on the quality of TB care or surrogates of quality (e.g. TB diagnostic delays), analyses of TB care cascades, and newer simulated patient studies that directly measure quality of TB care. Specific issues identified include:

- Low rates of TB testing by private providers, even when patients present with typical TB symptoms;
- Low rates of referral to the national TB program, even when patients present with typical TB symptoms;
- Private providers prefer to empirically manage with antibiotics and order tests later, resulting in multiple rounds of broad-spectrum antibiotics and other non-specific therapies, multiple patient visits and providers seen, and diagnostic delays;
- Chest x-rays are the preferred tests for TB; sputum tests such as smear microscopy or GeneXpert or cultures are rarely used;
- Use of drug susceptibility testing (DST) in the private sector is very low, even among patients with history of anti-TB therapy;
- What providers know and what they do in practice are often very different ('know-do gap');
- Limited capacity to support patients with adherence and treatment completion;
- High costs of care, with 50% of the total costs incurred before TB is diagnosed (9).

There is very wide variation in the quality of TB-related care amongst private providers, and some of it of course is very good. It should also be acknowledged that practices common amongst private providers have sometimes become more accepted by public programmes, such as chest radiography as a screening tool or, in India, daily regimens with fixed dose combinations.

Table 4, below, shows the proportion of 'correct management'¹⁰ of simulated patients with classic TB symptoms by private (non-NTP) providers in three countries, using the same standardized patient cases.

Table 4. Proportion of patients with TB symptoms who are correctly managed or referred by private providers, according to Standardized Patient studies

Location	% correctly managed	% referred	Reference
Mumbai, India	37%	15%	Kwan A et al (10)
Patna, India	33%	10%	
Nairobi, Kenya	33%, private for-profit 40%, private FBO	4%, for profit 10%, FBO	Daniels B, et al. (12)
3 provinces in China – village and township clinics	28%, village clinics 38%, township clinics	28%, village clinics 18%, township clinics	Sylvia S et al. (13)

9 Special thanks to Madhu Pai for the section on quality of private TB care

10 For patients with symptoms indicating presumptive TB, correct management included recommendation of sputum testing or chest radiograph or referral to a public DOTS center; for patients with evidence of microbiologically confirmed TB, referral or initiation of treatment with a standard, four-drug, first-line therapy; for suspicion of drug resistance, referral or recommendation of drug susceptibility test.

Whereas DHS and TB prevalence surveys provide data on the role of un-engaged private providers in initial consultations, data on their role in TB treatment is scarce. In recent years, attempts have been made to analyze data on private sector sales of anti-TB drugs in 10 high-burden countries for which such data are available (table 5) (14–15). There are considerable methodological challenges in converting sales units to number of patients who were, or could be, treated. Data suggest that private TB drug sales represent more than half of all TB drugs distributed in India and Indonesia, and between one third and one half in the Russian Federation, the Philippines and Pakistan. The private TB drug sales in India alone represent more than 60% of total private TB drug sales in these 10 countries. Private retail channels are relevant but less important in China, Bangladesh, Thailand, and Vietnam (with a large decrease in private sector volume in Bangladesh from 2003–2008) (14). Private retail sales seem to be of little significance in South Africa and in Brazil; the latter country was not included in these analyses and is an exception in that private TB drug sales are effectively prohibited by the regulatory authorities. TB drug sales data are not yet available for Nigeria, where a TB prevalence survey found 20% of cases were being treated in the private sector (16), or Myanmar, where a prevalence survey found 38% private treatment (17).

Table 5. Estimates of annual first line treatment course-equivalents sold through non-NTP channels and the percent of total market (private sales plus NTP notifications) that they represent

Source	Wells et al (2011) (14)		Malhotra et al (2018) (18)	
Country	Data from 2008		Data from 2015	
India	2 320 110	64%	2 069 667	54%
Indonesia	498 487	63%	347 244	51%
Pakistan	265 850	52%	272 135	45%
S. Africa	14 310	4%	52 978*	15%
Bangladesh	25 200	14%	n/a	n/a
China	299 230	23%	n/a	n/a
Thailand	15 640	22%	12 507	15%
Philippines	221 220	61%	217 925	43%
Vietnam	12 250	11%	11 266	10%
Russian Federation	19 630	13%	72 556	36%

* Estimate excludes INH because of the large volumes believed to be used in preventive therapy

The data on missing people with TB and private TB drug sales suggest that a failure to effectively engage private providers may not be the main constraint to TB care in some countries, notably South Africa, China, Ethiopia and Zambia. Ethiopia and Zambia have dominant public sector health systems, although Ethiopia's private sector is growing along with urbanization.¹¹ South Africa has a polarized health system in which a strong private sector serves a minority and the majority of the population is served by a strong public health infrastructure; the principal challenge for the TB programme is to reduce delays and losses within the public system. China is a special case: it has made considerable progress in reducing the burdens of TB, with publicly-owned hospitals that act like private providers.

11 The private sector accounts for only about 25% of primary care in Ethiopia but employs 55% of the country's general practitioners, 65% of specialists, and 79% of laboratory technicians. These figures represent a significant increase over the past five years; growth has been greatest in cities and larger towns. Private providers contribute up to 30% of TB notifications in these urban areas.

Published evidence of effectiveness of private provider engagement

Table 6 suggests that the literature on public-private mix for TB has increased considerably over the last few years, but it remains dominated by evidence from India. A systematic review of literature published through May 2014 included 78 studies of 48 programmes in 16 countries (1).

Table 6. Location of PPM studies in peer-reviewed literature

	Lonroth 2004 (3)	Lonroth 2006 (19)	Dewan 2006 (20)	Malmberg 2011 (4)	Lei 2015 (1)	Konduri 2017 (21)
Afghanistan						2
India	2	5	24	8	12	14
Nepal		1		1	3	
Bangladesh		2		1	4	5
Pakistan				1	4	
Thailand						1
Indonesia		1		3	6	
Myanmar		3		2	3	5
Vietnam	1	1		1	1	2
Cambodia					1	6
Lao PDR						1
Philippines		1		1	1	3
China					2	
Korea					2	
Subtotal Asia	3	14	24	18	39	37
Egypt				1		
S. Africa				1	2	
Ghana						2
Burkina Faso						1
Tanzania						3
Nigeria				1	2	
Kenya	1	1		1		2
Subtotal Africa	1	1	0	4	4	8
USA					4	
Dominican Republic						1
Bolivia					1	1
Subtotal Americas	0	0	0	0	5	2
Countries	4	8	1	12	15	15
Projects	4	15	24	22	48	47
Studies	4	20	14	45	78	77

Dewan (2006) was confined to India. Konduri (2017) was confined to drug sellers. PPM projects include NGOs and corporations as well as for-profit healthcare providers.

Evidence on the effectiveness of PPM was strengthened by three studies in 2006:

- A review of small pilot projects in India found that 27% of new smear-positive patients were attributable to private practitioners in 7 projects, while outcomes for privately-treated patients in 12 projects exceeded the program target of 85% treatment success; the projects were all small (20).
- A review of data from 15 public-private mix projects in 8 countries found a treatment success rate of 89.6% for new smear positive cases and an increase in case detection of between 10% and 36% over periods ranging from 9 months to 3 years (19).
- An economic analysis compared costs and cost-effectiveness of two pilot PPM projects in India with public sector DOTS and non-DOTS treatment in the private sector. The average cost-effectiveness of PPM and public sector DOTS was similar and roughly half that of non-DOTS private treatment (22).

In 2011, a systematic assessment of public-private mix for TB prevention and care identified 45 studies documenting 22 projects in 12 countries. The authors concluded: *"PPM has improved case detection and treatment outcomes among patients seeking care with private providers. Evidence on reducing patient costs is inconclusive, and there is scope for increasing equity in access to care by systematically engaging those providers who are the primary agents for poor people seeking health care."* (4)

Evolution of WHO guidance

The strategic approach to TB prevention and care from 1994 through at least 2006, DOTS, comprised five core elements: (i) political commitment and sustained financing; (ii) case detection through quality-assured bacteriology; (iii) standardized short-course chemotherapy, mostly under supervision; (iv) effective drug supply chain management; and (v) standardized monitoring and evaluation. It was essentially a public sector strategy in which the overwhelming task was for national TB programmes to adopt the strategy and mobilize the human and financial resources to progressively implement it throughout each country, which was largely achieved by 2006.

In 1998, the WHO TB department appointed a Medical Officer to focus on public-private mix. In 1999–2000, WHO conducted an assessment of private provider engagement in 23 countries and used it as a basis for the first guidance on public-private mix. It remains an outstanding summary of the importance of engaging private providers, the challenges and essential approaches. Since then, WHO has published a further ten guidance documents and tools (listed below).

In 2002, NTPs were asked to report whether they had a strategy for engaging private providers: only 4/22¹² countries reported that they did. For the 2003 global report, NTPs were asked to identify the main constraints to DOTS expansion: "non-compliance of private providers" was ranked second, after insufficient human resources.

By the 2005 WHO report, however, engaging private providers did not even feature amongst the 10 main constraints to DOTS expansion as identified by the NTPs. PPM, as one of the "additional strategies for DOTS expansion", had been expanded to embrace public-public as well as public-private mix.

This articulation was adopted in the Stop TB Strategy, 2006–2015, in which *"engaging all care providers"* was number four of six components (6). This strategic emphasis pushed forward WHO's normative work on PPM with several guidance documents and tools developed, including on monitoring and evaluation. However, uptake of these tools, including on performance monitoring, has been slow at country level due to lack of prioritization.

In 2009, WHO urged countries to report on PPM indicators, through the annual data collection form for the Global TB Report. This data was reported for the first time in the 2010 Global TB Report, with a single number covering contributions from all providers (non-NTP public providers, private not-for-profit providers, and private for-profit providers). Public and private provider contributions were disaggregated starting with the 2012 report (for 25 reporting countries), but the second number – the private provider

12 India, Kenya, South Africa and Pakistan

contribution – was not disaggregated between non-profit and for-profit private providers. The 2017 Global TB Report for the first time reported on PPM trends data on private sector engagement – this covered 8 countries. However, reporting on private sector notifications from countries remains highly inconsistent, and continues to combine non-profit and for-profit private providers in a single category.

WHO Guidance on PPM

Year	Title	WHO Ref	Link
2001	Involving private providers in TB control: issues, interventions and emerging policy framework	WHO/CDS/TB/2001.285	http://www.who.int/tb/publications/private-practitioners-control/en/
2003	PPM for DOTS: practical tools to help implementation	WHO/HTM/TB/2003.325	http://www.who.int/tb/publications/ppm-implementation-tool/en/
2006	Engaging all health-care providers in TB control: guidance on implementing public-private mix approaches	WHO/HTM/TB/2006.360	http://www.who.int/tb/publications/2006/who_htm_tb_2006_360/en/
2007	A tool for national situation assessment: public-private mix for TB care and control	WHO/HTM/TB/2007.391	http://www.who.int/tb/publications/who_htm_tb_2007_391/en/
2008	Promoting the implementation of collaborative TB/HIV activities through public-private mix and partnerships	WHO/HTM/TB/2008.408	http://www.who.int/tb/publications/tb-public-private/en/
2010	Public-private mix for TB care and control: a toolkit	WHO/HTM/TB/2010.12	http://www.who.int/tb/publications/tb-publicprivate-toolkit/en/
2015	A situation assessment tool to engage all relevant care providers in drug-resistant TB (DR-TB) management at country level	WHO/HTM/TB/2015.17	http://www.who.int/tb/publications/situation-assessment-tool-provider-engagement-drtb/en/
2015	Implementing the End TB Strategy: The essentials (pp 66–78)	WHO/HTM/TB/2015.31	http://www.who.int/tb/publications/2015/end_tb_essential.pdf
2015	Framework for the engagement of all health care providers in the management of drug resistant tuberculosis	WHO/HTM/TB/2015.04	http://www.who.int/tb/publications/public-private-mix-drug-resistant-tb/en/
2015	Best practices in engagement of all health-care providers in the management of drug-resistant TB	WHO/HTM/TB/2015.24	http://www.who.int/tb/publications/best-practices-provider-engagement-drtb/en/
2017	Guide to develop a national action plan on public-private mix for tuberculosis prevention and care	Published jointly with USAID	http://www.who.int/tb/publications/2017/PPMActionPlanGuide/en/
2018	Public-private mix for TB prevention and care: a roadmap	WHO/CDS/TB/2018.32	http://www.who.int/tb/publications/2018/PPMRoadmap

In the WHO End TB Strategy, engagement of private providers is combined with that of civil society organizations and “communities”, as well as public non-NTP providers, as the 2nd component of the pillar “Bold policies and supportive systems”. PPM is one of 41 “key actions” (23). Given the broad agenda of the End TB Strategy, it is critical to ensure private provider engagement is prioritized, given that action in this area will drive success in reaching the targets under Pillar 1- “Integrated, patient-centered TB care and prevention” to ensure universal and early access to quality diagnosis and care. The Global Plan to End TB describes investment packages for 9 different “country settings”. Private provider engagement is

one of 13 proposed investments for India (country setting number 7) and is the focus of setting number 5 ("high to moderate burden of TB with a large proportion in private care"), which includes south-east Asian countries but not Nigeria or other African countries (24).

One of the main ways in which WHO has contributed to this agenda is by hosting the Public Private Mix Working Group of the Stop TB Partnership (formerly a sub-group of the DOTS Expansion Working Group). Since 2002, 13 global meetings have been organized. The meetings have served to advocate for PPM engagement, facilitating linkages and support amongst champions in this area, educating new NTP managers in this technical area that is unfamiliar to most, and contributing towards documentation and sharing of best practices. Efforts have been made to mobilize support and activity by inviting NTP managers, staff of the Global Fund and United States Agency for International Development (USAID), and WHO advisors to attend and present.

Status of private provider engagement in high-burden Countries

Data on private provider engagement for TB is weak (see section above on PPM indicators), which is itself a sure indication of the low priority accorded to this work. WHO began requesting data on PPM case notifications in the annual report from national TB programmes from 2009, but many countries still fail to provide it because their own data systems do not disaggregate notifications in this way. Data is inconsistent: it sometimes includes public-public mix as well as public-private mix; it often includes only notifications of private treatment but not private provider referrals; and it is often no possible to distinguish contributions from for-profit and non-profit providers.

It would be easier to promote a standardized collection of data on private providers if the priority of this work was equally high in all countries. However, a number of countries in sub-Saharan Africa, for example, have health systems with more informal private providers (who are thus more difficult to engage productively) and a population that is more rural and thus more likely to use public services. For these countries, certain public sector interventions may present "quicker wins", so they are less likely to mandate the considerable task of collecting data disaggregated by referring or treating source (especially in the remaining paper-based systems). In the short term, promoting such data disaggregation in a more limited group of countries with an undeniably high potential yield from private providers may be a more practical objective.

While there has been progress in private provider engagement for TB in some countries, others have not even begun and all could do much more. Much of the experience has been in Asian countries with very large and developed private health sectors such as Bangladesh, India, Indonesia, Myanmar, Pakistan and the Philippines. Despite some interesting examples in Ethiopia, Kenya and Tanzania, efforts in Africa have generally lacked scale.

The reported number of private provider notifications in the seven of the 10 highest burden countries with large private sectors increased five-fold from 2012 to 2017, from 113 000 to 665 000 and from 4% to 19% of total notifications in those countries (table 7). India has by far the largest number of TB cases notified by private providers (384 000 in 2017). India, Pakistan and Bangladesh together account for 80% of the latest data on private provider case notification. India, Indonesia and Pakistan seem to be the only countries in which this number is increasing significantly. Private notifications in Myanmar remain significant but have been declining steadily throughout this period. Nigeria lags far behind the other countries considered here.

There are several ways to put these numbers in perspective:

- Per capita, private provider engagement has been most effective in the Philippines, Pakistan and Bangladesh, with private provider notifications at 40-50 per 100 000 population.
- As a fraction of total case notification, private provider contributions have been most important in Bangladesh (consistently around 30%), followed recently by Pakistan and India (21%).
- Relative to estimated incidence, private provider notifications are highest in Bangladesh (18%), followed by Pakistan (15%), India (14%) and Myanmar (10%).

Data on For-Profit Provider Notifications

For this report, a special effort was made, working with NTPs and their partners, to disaggregate data on the contribution of for-profit private providers from that of NGOs/FBOs and others. Note that these numbers often differ from those in WHO Global TB Reports for several reasons: reports to WHO include notifications from private non-profit and faith-based organizations, and sometimes community-based organizations; data available for this analysis is typically for total notifications, whereas data in WHO global reports often include new and relapse cases only; and NTPs sometimes revise their data after sending annual reports to WHO.

Data in this report for **India** is from annual RNTCP Status Reports using the Nikshay system, which attributes each notification to public or private providers and distinguishes the latter amongst hospitals, stand-alone providers and laboratories. It may include data from some non-profit facilities, but these are thought to be few in number. Bangladesh and Pakistan have particularly rich data, collected consistently over several years. For **Bangladesh**, this analysis includes contributions from private hospitals, independent graduate providers, non-graduate providers and Village Doctors. For **Pakistan**, data here includes notifications under schemes PPM1 (private GPs) and PPM3 (private hospitals). For **Myanmar**, the data includes notifications from PSI and the Myanmar Medical Association; there is no procedure for acknowledging private contributions independent of these two main intermediary organizations. For **Indonesia**, the SITT data includes notifications from private hospitals, private clinics (or group practices) and independent private doctors; contributions from FBO/NGO are included in the public provider data. In the **Philippines**, since 2015 the ITIS system has distinguished notifications from private providers and “community” sources. In **Nigeria**, notification data at the district level typically identifies the contributing provider and type, distinguishing private for-profit from private FBO, but these distinctions have been imperfectly aggregated at the national level. The analysis presented here benefits from considerable effort that was made to improve the quality of data for recent years in preparing the PPM Action Plan in 2017 and the Global Fund application in 2018.

- The gap between the proportion of incident TB cases notified by private providers and their share of initial care-seeking for childhood illness is between 60 and 70 percentage points in all the countries under consideration.

Table 7. Private for-profit TB notifications in selected high-burden countries, 2012–2017

Country	2012	2013	2014	2015	2016	2017
Private for-profit notifications						
India	3 547	38 596	106 414	184 802	330 186	383 784
Indonesia	5 432	26 345	28 186	31 002	38 334	59 549
Philippines	19 946	19 946	n/a	41 977	53 394	52 375
Pakistan	n/a	31 400	38 000	36 817	66 103	79 332
Nigeria	8 121	12 995	13 031	13 088	3 975	4 968
Bangladesh	49 576	59 964	65 239	62 279	65 651	67 332
Myanmar	26 879	24 799	23 138	21 316	19 710	18 149
Total	113 487	260 888	362 586	391 281	577 353	665 489
Private for-profit notifications as a percentage of total notifications						
India	0%	3%	7%	13%	19%	21%
Indonesia	2%	8%	9%	9%	11%	13%



↴

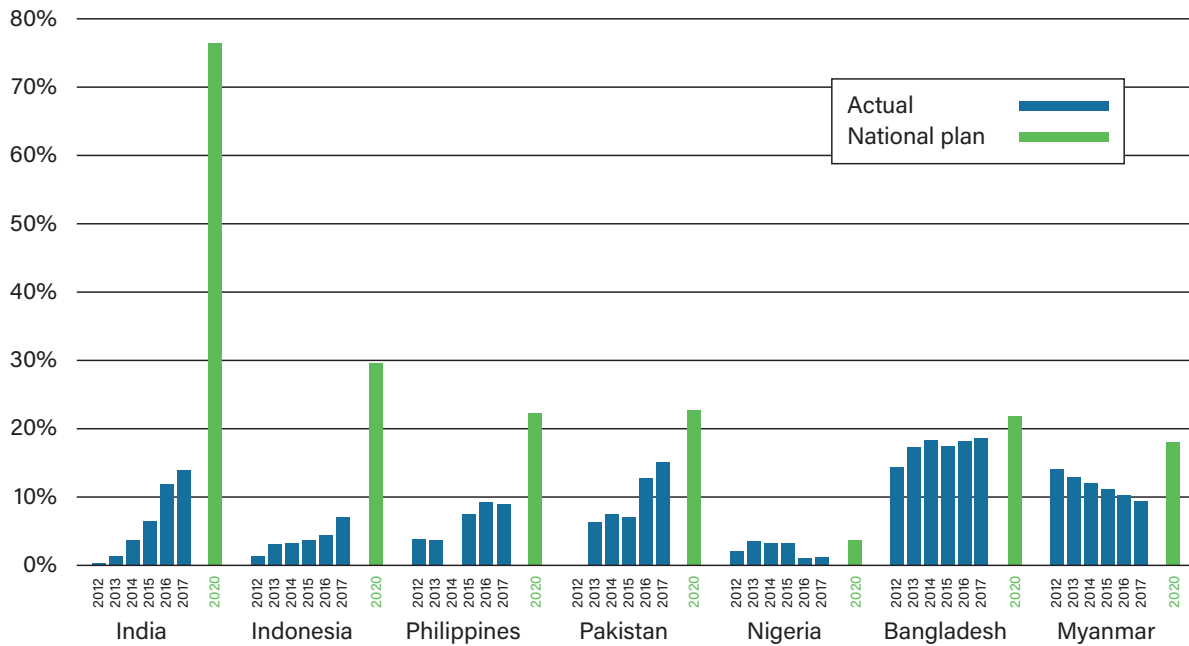
Country	2012	2013	2014	2015	2016	2017
Philippines	9%	9%	n/a	15%	16%	17%
Pakistan	n/a	11%	12%	11%	19%	22%
Nigeria	9%	14%	15%	15%	4%	5%
Bangladesh	29%	32%	34%	30%	30%	28%
Myanmar	18%	17%	16%	15%	14%	14%
Total	4%	8%	10%	14%	18%	19%
Private for-profit notifications as a percentage of estimated incidence						
India	0%	1%	4%	7%	12%	14%
Indonesia	1%	3%	3%	4%	5%	7%
Philippines	4%	4%	n/a	7%	9%	9%
Pakistan	n/a	6%	8%	7%	13%	15%
Nigeria	2%	3%	3%	3%	1%	1%
Bangladesh	14%	17%	18%	17%	18%	18%
Myanmar	14%	13%	12%	11%	10%	10%
Total	2%	4%	5%	7%	10%	12%

Source: WHO, NTPs (see Box page 16); incidence estimates from WHO.

Figures 1 and 2 show recent trends in private provider notifications, expressed as a proportion of estimated incidence and as a proportion of total TB notifications, respectively, together with targets for 2020 as expressed in National Strategic Plans¹³, for seven of the highest-burden countries in which more than two thirds of patient care-seeking behavior is with private providers.

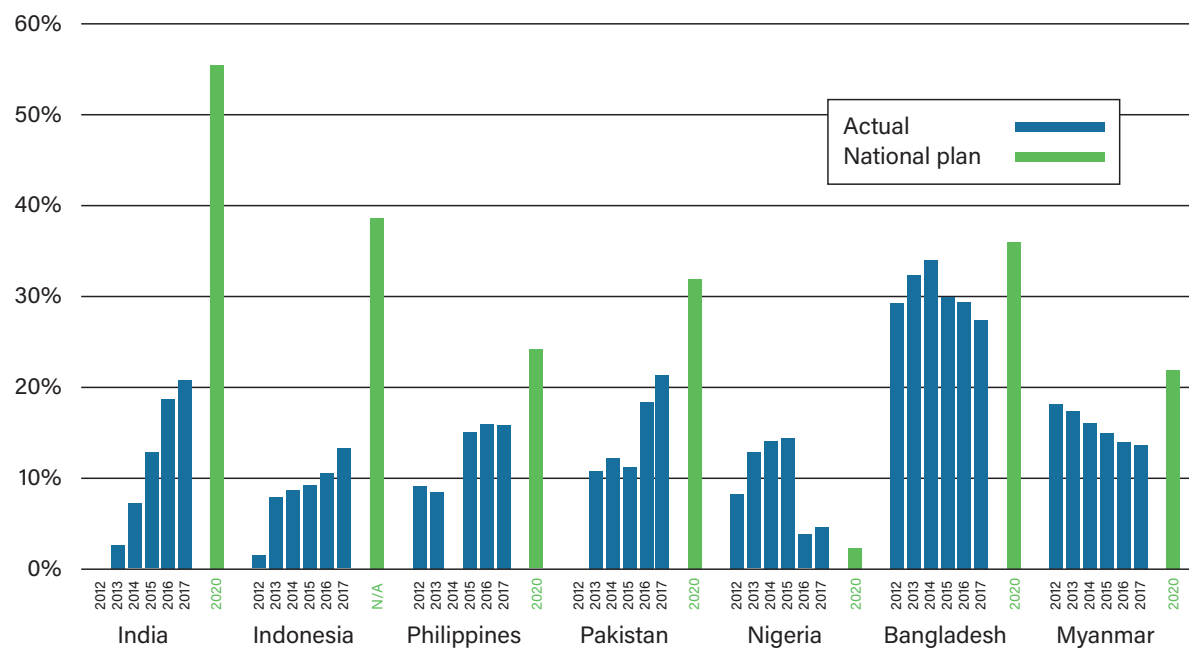
13 Except Indonesia, which has no target in the NSP, so the Global Fund grant target is used.

FIGURE 1. PRIVATE FOR-PROFIT TB NOTIFICATIONS 2012-17 AND PLANNED FOR 2020, AS A PERCENTAGE OF ESTIMATED INCIDENCE



Source: Authors' analysis of NTP notification data; WHO incidence estimates

FIGURE 2. PRIVATE FOR-PROFIT TB NOTIFICATIONS 2012-17 AND PLANNED FOR 2020, AS A PERCENTAGE OF TOTAL TB NOTIFICATIONS¹



Source: Authors' analysis of NTP notification data; WHO incidence estimates



2 ISSUES IN PRIVATE PROVIDER ENGAGEMENT FOR TB CARE

Constraints to private provider engagement for TB

Given the importance of private providers for TB prevention and care, what explains the relative lack of engagement in most countries? There are many powerful constraints to private provider engagement for TB.

1. *Bias towards public provision:* Ministries of Health and most funding and technical agencies demonstrate a bias in favor of public provision of healthcare services, even though the most successful health systems (and virtually all health systems in high income countries) are characterized by a mixture of public and private providers. The underlying reasons for this bias may include ideology, mistrust, self-interest, lack of information and practicality (weak administrations may find it easier to establish under-performing public health services than to engage private providers). Ministries of Health in low-income countries generally have the skills to manage in a specific public sector environment. By contrast, governance of the private sector requires a very different skillset in indirect management and influence, which takes time to learn and develop. This bias is common in many health areas.
2. *Lack of funding for private provider engagement:* It is widely acknowledged that there is insufficient funding for health in low- and middle-income countries and that the proportion allocated to TB is less than its share of avoidable mortality and morbidity would indicate. These two factors are compounded by the bias towards public provision to result in resources for engaging private providers that are tiny relative to their importance. Even when plans are drawn up for engaging private providers, they are amongst the first to be cut in the face of competing priorities or budget shortfalls. Available external funding is also often not conducive to effective private provider engagement, either because it is short-term or because grant and contract mechanisms do not encourage innovation and adaptation. Meanwhile, it has been difficult or impossible to access domestic financing for private provider engagement in TB in high burden countries. There are several contributing reasons. NTPs typically lack the skills necessary to bid out and manage government service contracts, which would be needed to contract intermediaries using domestic funds. Furthermore, although it is already difficult to negotiate an increase in domestic financing for TB, such a negotiation is far easier when requesting the increase for procuring commodities, rather than for procuring an uncertain service contract for provider engagement. If the financing increase is instead required for more NTP staff to directly undertake

Constraints to private provider engagement for TB

1. Bias towards public provision
2. Insufficient funding
3. Lack of understanding of private healthcare markets
4. Entrenched approaches
5. Few champions or orchestrators of system transformation
6. Fragmentation of the private market
7. Weakness of key health systems
8. Shortage of experienced and qualified implementers
9. Few inspiring models at scale
10. Challenges specific to TB
11. Market forces
12. More attractive competing priorities

private provider engagement, this runs up against rigid public sector staffing rules. (See discussion of funding, below.)

3. *Lack of understanding of private healthcare markets:* The lack of data on private healthcare markets is both a cause and a consequence of the bias towards public provision and the lack of funding for private sector approaches. Very few high burden countries maintain comprehensive registries of private healthcare providers (the lists that do exist are typically unreliable) and little is known about patterns of care-seeking, patient pathways, prices and margins, quality of care, willingness-to-pay, informal arrangements between providers, relationships between price and quality, etc. Some of these studies (such as those tracing patients from care seeking to treatment¹⁴) are inexpensive, yet are not part of the expected data foundation for a TB program. USAID-funded Demographic and Health Surveys have long provided an indication of the importance of private markets in care-seeking for other health areas (childhood illnesses and family planning).¹⁵ USAID has supported a number of private sector assessments but they have typically been focused on family planning or HIV. For TB, recent advances have included analysis of private drug sales data (14), demonstration of the applicability of the simulated patient methodology to TB (11), the use of TB inventory studies to detect sites of under-notification (25), and Patient Pathway Analyses (26).¹⁶
4. *Entrenched approaches:* Most leaders of TB programmes have dedicated large parts of their careers to the process of scaling up and fine-tuning TB care in the public sector. They have embraced evolution within that field, most notably adjusting operational approaches to address TB/HIV co-infection and MDR-TB, but they do not tend to look outside the TB field for inspiration. This has constrained adoption of digital technologies as well as engagement of private providers. Systematic engagement of private providers, on a scale commensurate with their role in health markets, is best understood as an example of a “disruptive innovation” (27). Serving large numbers of TB patients not reached by current programmes will require major changes in mission, attitudes, systems, technologies, skills, partnerships and overall business models.
5. *Few champions or orchestrators of systems transformation:* At the international level, there are only a few champions of private provider engagement for TB who are strategically placed to influence this agenda in multiple countries, and even fewer with the mandate to drive a flexible but long-term vision in a particular country. PPM is viewed as just one of many technical areas for TB practitioners, and thus competes with a long list of technical priority areas such as TB/HIV, MDR-TB, active case finding, contact investigation, pediatric TB, supply chain management, and monitoring and evaluation. Staffing of NTPs and international TB organizations reflects this division of tasks, thus leaving few if any individuals devoted to the complex, multi-disciplinary effort of engaging private providers through systems change.
6. *Fragmentation of the private market:* The proliferation of independent, owner-operated healthcare providers is a characteristic of middle-income countries, just as consolidation of healthcare providers in chains (of hospitals, labs, pharmacies) is a characteristic of advanced market economies. Consolidation facilitates engagement and regulation, as officials can negotiate with a smaller number of large companies that deploy standardized systems of quality assurance, motivated by brand stewardship, public relations and fear of liability. In the meantime, engagement of large numbers of private providers will require deployment and management of large field forces, although their effectiveness can be multiplied by Information and Communications Technologies (ICT) systems and strategic purchasing.¹⁷

14 See Kapoor SK, Raman AV, Sachdeva KS, Satyanarayana S. How did the TB patients reach DOTS services in Delhi? A study of patient treatment seeking behavior. PLOS ONE 2012; 7: e42458; and use of the same methodology in Nigeria by Abimbola S, Ukwaja KN, Onyedum CC, Negin J, Jan S, Martiniuk AL. Transaction costs of access to health care: Implications of the care-seeking pathways of tuberculosis patients for health system governance in Nigeria. Glob Public Health. 2015 Oct;10(9):1060–77.

15 <https://dhsprogram.com>

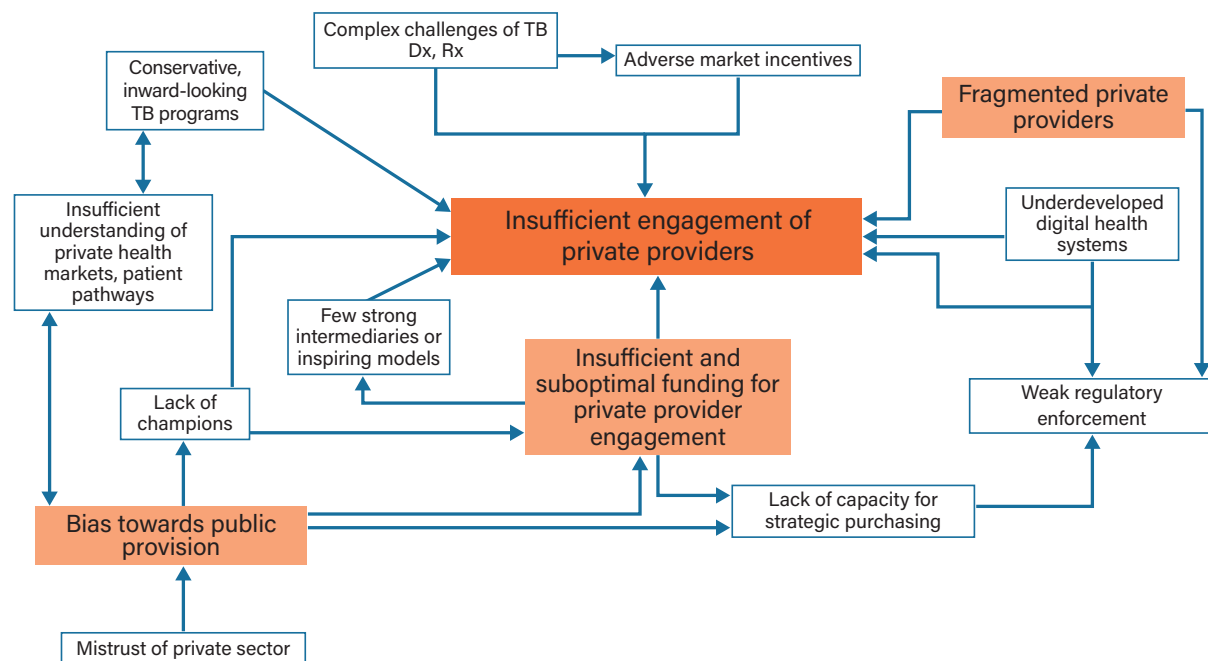
16 The problem of lack of information about private health sectors and their role in TB should not be over-stated or used as an excuse for inaction. The broad outlines of the role of private providers in TB, and in health in general, have been known since at least the 1990s, when countries such as Morocco and Korea demonstrated the benefits of engaging them for TB.

17 “Shifting to more active or *strategic* purchasing involves linking the transfer of funds to providers, at least in part, to *information* on aspects of their performance or the health needs of the population they serve.” (67)

7. *Weakness of key health systems:* The challenge of engaging private providers is compounded by the weakness of several health sub-systems in low- and middle-income countries, notably regulatory enforcement, strategic purchasing and information systems.
8. *Shortage of experienced and qualified implementers:* A direct consequence of the lack of funding for private provider engagement is the relative lack of intermediary organizations and policy advisors with skills and experience in this area. Associations of medical doctors, specialists and pharmacists are to be found in most countries, but while they can play an important communications role in raising awareness, they do not usually have the skills, human resources or financial and program management capacity for field operations at scale. Organizations with TB expertise often lack interest or capacity for private provider engagement, while social marketing organizations (DKT, Population Services International, MSI) are ubiquitous and strong at engaging private providers but usually focused on reproductive health. Many efforts to engage private providers have been undertaken by contractors who have mobilized to implement a time-bound project on behalf of a donor, in contrast with mission-driven organizations (such as BRAC and some PSI affiliates) that use donor projects as stepping stones towards a long-term vision to serve a particular population or area.
9. *Few inspiring models at scale.* For all the above reasons, there have not been many successful models of sustained implementation at a scale commensurate with the problem and the opportunity. The most promising exceptions are in Asia, in Bangladesh, Pakistan, Myanmar and (recently) India. Significant achievements in health systems that are now more developed and mature (e.g., Japan, Korea and Taiwan) deserve more attention so that other countries can draw upon their lessons in private engagement.
10. *Challenges specific to TB:* Engagement of private providers suffers from the same features of TB care that are challenging in public channels, such as: the lack of rapid, objective and accurate screening and diagnostic tools; the multiple categories of TB case; lack of consensus on treatment regimens; long duration of treatment; stigma; etc. Independent private providers particularly struggle with recording and reporting requirements, contact tracing and adherence support. In contrast, private provider engagement can be much simpler in areas such as family planning and malaria.
11. *Market forces:* In the absence of regulation and dominant public purchasing, competitive market forces work against good TB care. They discourage patient counselling, referral for diagnosis and compliance with long treatment regimens (especially as the patient feels better within a few weeks) while encouraging misuse of antibiotics, steroids and other therapies aimed at providing quick symptom relief. By comparison, market forces can be better aligned with appropriate care in family planning, management of simple diarrhea, malaria, etc.
12. *More attractive competing priorities:* The relative lack of attention to private provider engagement by national TB programmes is largely due to their public sector bias but can only be fully understood in the context of the other challenges that demanded greater attention over the last 20 years: roll-out of basic TB care in the public sector (including training and human resources management; supply chain logistics; and reporting, recording, monitoring and evaluation); development and roll-out of TB/HIV interventions; development and roll-out of highly complex responses to MDR-TB; adjusting to the changes in the donor environment such as the Global Fund, sector-wide approaches, and health systems strengthening agendas; attending to gender and rights agendas; and adopting new diagnostic and treatment tools. Faced with multiple challenges, people and organizations focus on what they know best and can control.

Figure 3 illustrates the interactions between the main constraints. They are not all equally important, and their importance also varies over time. One could say that the underlying problem is that market dynamics are not conducive to good TB care. The next most important constraint is the bias towards public provision. If this is overcome, such that managers and funders are serious about engaging private providers and assuming responsibility for all TB patients in a country, the next most important constraint is the fragmentation of the private primary care sector. Given sufficient funding and commitment, this can be overcome by simultaneously addressing the remaining constraints, many of them related to strategic purchasing (see next section).

FIGURE 3. CONSTRAINTS TO PPM



Lessons from private provider engagement in other health areas

Other health areas have generated substantial experience with a variety of approaches to engaging private healthcare providers and markets to advance public policy goals. Approaches have included social marketing, contracting, franchising and other kinds of network development, accreditation, access to credit, training and continuing medical education (28–29). Clinical, social and market factors combine to create distinct challenges and opportunities for different kinds of health technologies in different contexts; given this variation, it is difficult to say whether other health areas are doing “better” or “worse” than TB in private provider engagement, but there are lessons to be learnt.

The health area for which private providers have been most engaged is family planning. Contraceptive social marketing began in India in the 1960s. By 1991 there were substantial programmes in 29 countries delivering 9 million Couple-Years of Protection (CYP); by 2015 programmes in 59 countries delivered 68m CYP (30). Family planning is not an infectious disease and there are no major diagnostic issues, so most of this work has been marketing of commodities. However, the field does include technologies with a substantial element of skilled provider service, and therefore a strong element of training and quality assurance, such as IUDs (3 million in 56 programmes in 2015), implants, sterilization (not included in the above statistics) and abortion. The “social enterprise model”, which seems innovative in TB, has been common in family planning for decades.¹⁸

Private channels are used very extensively for malaria diagnosis and treatment. The rapid test and short treatment for malaria simplifies diagnosis and treatment (compared to TB) but the concerns about drug resistance are similar to TB. Private providers are also engaged for diarrheal disease management (especially for ORS and zinc), although in this case the medical issues are even more basic. Private providers have not been used much for pneumonia, where diagnosis and case management challenges are arguably even more challenging than TB.

¹⁸ In 2016, the 164 member associations of the International Planned Parenthood Federation operated 27,860 clinics; Marie Stopes International operates more than 600 clinics in 37 countries. They cover all or a large part of their costs from user fees.

EPI vaccines are a quintessential publicly-provided (command-and-control) health service, and yet even here for-profit providers deliver 17% of vaccinations in India (27% in urban areas) (31) – about the same as the private provider share of TB case notification, for a service for which the private provider role would be expected to be far less significant.

Private providers have been engaged substantially for maternal care, especially under the Chiranjeevi and Janani Suraksha Yojana (JSY) maternity benefit schemes in India (although the latter program was used to increase market share of public facilities).

India, Pakistan and other countries have contracted extensively with for-profit companies and social enterprises for ambulance services (32).

Private hospitals have been very heavily engaged for general health services under social health insurance schemes, initially and mainly for in-patient care but also for outpatient or primary care in some cases. In Rashtriya Swasthya Bima Yojana (RSBY), a government-run health insurance programme for the Indian poor (which covered 41 million families in India), 6297 (59%) out of 10 725 empaneled hospitals were private (33) and 58% of claims payments were to private hospitals¹⁹; payments under the well-known Aarogyasri scheme in Telangana went roughly 2/3 to private providers. Indonesia's JKN scheme similarly contracts with large numbers of private hospitals and providers and, in the Philippines, private providers represent 60% of all accredited PhilHealth providers and attract 55% of PhilHealth payments.

Evolution of institutional models

In the initial approach to PPM (version 1.0), staff of the NTP directly engage private providers, urging them to refer persons with suspected TB to the NTP. This model still applies in many places, but most countries recognize that private providers are reluctant to lose patients and have been willing to allow qualified providers to manage their own TB patients, using drugs and diagnostics provided by the government, in exchange for notifications (version 2.0).

Continued poor performance led to a recognition that the public sector was inherently ill-equipped to directly contact large numbers of individual, fragmented private providers and thus to the emergence of version 3.0, in which an intermediary organization takes on the task of engaging private providers on behalf of the NTP (3). A review of 15 projects in 2006 found 8 with an NGO intermediary (19). The government's preferred intermediary organization is typically the national medical association, which is able to convene qualified providers, but performance has typically been better when the task is taken on by a suitable NGO. This model has become quite common, but the work of the intermediary organization has almost always been funded by international donors.

Version 4.0 is currently emerging in India in response to the government's inability to commission intermediary organizations: specialized units are to be established, at federal and state levels, to develop RFPs, contracting and performance management systems to facilitate establishment of intermediary organizations. These are initially funded by donors (version 4.0) but the hope is that the Government of India (GOI) will assume responsibility for funding these units and the intermediary organizations (version 4.1). This is consistent with the new GOI health policy, which calls for greater engagement with private providers via strategic purchasing (34).

Version 5.0 represents a partial return to PPM 2.0, in that government staff (such as TB nurses or outreach workers) take on the role of reaching out to private providers. However, this is now in a context where governance of the private sector by the public sector has become a more entrenched and accepted task, and thus there is more energy, seriousness and scale behind the public sector effort. Such acceptance of this public sector role typically arises as countries move from low income to upper middle income, and is assisted greatly by the establishment of social health insurance (or other, similar systems for strategic purchasing at scale) – which is often the first time that substantial amounts of public money are flowing to private providers to compensate the care they provide. Such flows reinforce the necessity for effective oversight of this public money and, by extension, the necessity for oversight of the private

19 Nishant Jain, GTZ, personal communication

providers who receive that money. Large-scale, government-staffed models of engagement have driven past achievements in Japan and Taiwan, and are currently being expanded in Indonesia. Government staff remain directly responsible for private provider engagement in many areas of India, and other high-burden countries.

Social health insurance schemes not only establish a culture of working with private providers, but also help reinforce the work of engaging via both versions 4.0 and 5.0 – the only two models with real potential to engage private providers sustainably and to scale (5). Through judicious choice of purchasing arrangements for TB, social health insurance organizations (or other similar system for strategic purchasing at scale) can nudge providers towards higher quality practices, and effectively establish a platform of private provider engagement, including accreditation, data flows and quality assurance, all backed up by timely and reliable payments (35). The impact of social health insurance on private sector TB in high burden countries has been constrained by general problems within the SHI schemes (enrolment, definition of benefits, accreditation of private providers, payment delays) and issues specific to TB (specific reimbursement rates, provision for diagnostic referrals, etc.) (36). The need to implement versions 4.0 or 5.0 schemes to provide for public health functions, such as reporting and recording, contact tracing and patient support, remains under such arrangements (37). Insurance organizations are less likely to staff this direct provider engagement role themselves, but these insurance systems establish a much firmer basis for engagement under either PPM 4.0 or 5.0 schemes.

What we know about how to engage private providers

The broad outlines of how to engage private providers of different types are well established²⁰, although there is ample scope for local variation and innovation around mechanisms for recording and reporting, incentives, regulatory penalties, roles of private labs, informal providers, pharmacies, and community health workers and active case finding. The keys to motivating private providers to conform with the International Standards of TB Care (ISTC) have been well articulated by implementers: building respectful relationships; understanding providers' need to retain patients, provide rapid relief for them and safeguard their reputations; and acknowledging the importance of revenues but also of public recognition, access to new technologies and professional development.

At this stage, the most significant differences between programmes include whether the focus is on private primary care providers or hospitals and specialists, whether engagement is led by local NTP staff or entrusted to an NGO intermediary, the extent of integration with other disease areas, and the extent to which digital systems are used.

There are differences between and among the relatively successful models that have been implemented in different health markets and over time, as one would expect. One of the most important lessons learned is that there is no single model, and efforts to distill a single "recipe" are likely to be misplaced.

The STOP TB Strategy, 2006–2015, noted that *"the basic premises of PPM are that the financial resources to establish and sustain the collaboration are provided or facilitated by the NTP, that drugs are provided free of charge or heavily subsidized, and that fees for tests and consultations are waived or kept to a minimum"* (6). A clear and obvious pre-requisite for private provider engagement is willingness and commitment on the part of the NTP. WHO guidance has often suggested that a strong and effective NTP is a pre-requisite of good private provider engagement, but in fact the demands on the NTP vary according to the institutional model followed. If the NTP tries to engage private providers itself rather than work through intermediaries, then it needs sufficient capacity to be able to allocate substantial numbers of dedicated staff to the task of engaging private providers. Staffing and logistical burdens are reduced if intermediaries are entrusted to engage private providers, but they are replaced by more sophisticated requirements of strategic purchasing.

Some of the health systems and policy foundations of effective private provider engagement for TB include:

20 Summarized in *Public-private mix for TB care and control: a toolkit* (WHO, 2010).

- Policy, regulations, enablers (such as simplified digital systems) and enforcement mechanisms for notification of TB cases;
- Policy, regulations and enforcement mechanisms regarding sales of anti-TB drugs and inappropriate diagnostics;
- Policy and systems for quality assurance of healthcare practitioners and facilities (licensing, certification, registration, accreditation);
- Policy, systems and specialist staff dedicated to contracting and to purchasing of packages of health services.

While policies are often in place, mechanisms for enforcing regulations are missing in most low- and middle-income countries. The policies constitute a useful framework for engaging private providers, but any capacity for regulatory enforcement should be understood as an additional support rather than an essential prerequisite or a primary driver for engaging private providers. A review of mandatory TB case notification policies found that they were in place in 11 of 15 high-incidence countries surveyed but barriers to compliance included *"lack of time, confidentiality concerns, fear of offending patients, lack of knowledge about notification, no simple notification mechanism, and lack of trust and coordination with government."* India's NIKSHAY system helped achieve a 29% increase in case notifications in 2014, while Taiwan saw a 47% increase when paying for notification and making it a requirement of insurance reimbursement (38).

One of the interesting insights from work in India is that it may be a good idea to focus initially on increasing notifications by private providers and subsequently using that data to begin to improve quality of diagnosis and case management. It may take time to change provider behaviors.

Beyond the policy foundations noted above, the general functions involved in private provider engagement itself are fairly clear, even if their practical application may take different forms in different locations and at different times. Eight general functions may be identified, as follows:

1. *Develop and nurture relationships:* Those who interact with private providers must have appropriate skills and aptitude, and are sometimes recruited from pharmaceutical sales representatives. The skill set for engaging informal providers will be distinct from that of engaging large private hospitals. If there is an intermediary organization between the NTP and private providers, it must also have the outlook, skills and capacity to build and continue to nurture effective relationships with the NTP (at all relevant levels) and local health and administrative authorities, as well as any relevant community-based or patient organizations. The leadership of the intermediary organization has to build the trust of the NTP.
2. *Develop and refine market intelligence:* The NTP and/or intermediary organization must have or develop a detailed understanding of local health markets, including the location, characteristics and client load of all relevant providers, the networking and referral relationships amongst them, and their practices with presumptive and confirmed TB patients. In some places, identification of champion TB care providers who contribute a large proportion of case notifications is an important strategy for intermediary agencies.
3. *Negotiate roles, responsibilities and value propositions for different actors:* PPM plans typically include a "task mix matrix", summarizing agreement on the various roles in referral of persons with potential TB, diagnosis, confirmation, treatment observation, support, etc.) of the various providers and actors (informal providers, qualified doctors, pharmacies, drug shops, labs). If the partnership is to be successful, private providers have to see value in the roles and responsibilities assigned to them: initiatives that simply instruct them to refer potential TB patients to government clinics are rarely successful. While it is essential to take into account financial costs and benefits to private providers of any proposed behavior, it is also a mistake to believe that private providers are only motivated by financial considerations: experience suggests that their motivations include nurturing a positive reputation in their communities²¹, recognition, professional development and access to technical information, networking amongst peers, professional self-esteem and altruism.
4. *Train and equip private providers as necessary:* Even graduate medical practitioners usually need training in the latest standards of TB diagnosis and case management, while paramedical and administrative

21 This is often a very powerful motivation for private providers to take on tasks that don't seem financially attractive, but it is also linked to financial incentives since local reputation is critical to private providers' business success

staff will need training on client counselling and recording and reporting. Training modalities need to be appropriate for the trainees: curricula and courses designed for public sector personnel need to be adjusted to cover only the material that is absolutely necessary for quality service provision and to accommodate private providers' needs to maintain their practices (through short and convenient schedules and opportunities for distance learning). Low-intensity, high-frequency sensitization sessions in clinic can mimic medical detailer interactions.

5. *Develop systems to ensure private patients' access to diagnostics and treatment:* Options include engagement of private labs, with provision of free or subsidized lab consumables in exchange for data and assurance of free or low-cost services to patients, and/or referral to public labs. Systems for vouchers and sample transportation may also be required. Similarly, TB drugs may be supplied to private providers or pharmacies, or vouchers may be used to subsidize private patients' purchase of quality-assured regimens from selected pharmacies. Many PPM projects have focused on engagement of one provider type, whereas an entire network solution is often required.
6. *Develop data management systems for reporting, monitoring and evaluation:* Standard TB recording and reporting forms were developed for public sector contexts and often need to be simplified and adapted for use in private facilities. NTPs or intermediary organizations typically have to deploy field workers to take on much of the work of recording and reporting, as private providers rarely have the capacity to take on such paperwork. However, the need for an intermediary's assistance with reporting may be reduced or eliminated by using a greatly reduced and simplified data request, which is channeled either through a simple app (with examples in Bangladesh, Indonesia and Pakistan), use of a Call Center (as in India) or a data system used for health insurance reimbursement (such as in Taiwan).
7. *Develop systems for linking private patients to support services.* Access to nutritional and other forms of social support and adherence counselling is as important for TB patients managed in the private sector as it is for those in the public sector. Ideally, interventions link patients to existing support services rather than establish parallel systems.
8. *Develop and deploy ICT systems to facilitate efficient and effective implementation at scale:* Advances in information and communication technologies have the potential to overcome many of the challenges of engaging large numbers of fragmented providers. Applicable innovations range from basic SMS messages and call centers to geospatial technologies, low-cost tablets and smart phones, fingerprint and iris scanners, barcodes and QR codes. Critical functions that can be enabled at scale include case notification and reporting, communication of diagnostic results, payments to providers and patients, adherence support and monitoring, and overall performance management. Call centres have played a critical role in facilitating private notifications in India. On the other hand, recent experience in India suggests that ICT cannot entirely substitute for interpersonal outreach and relationship-building. There must also be a conscious process of defining a stably funded institutional "owner" of this ICT capacity – either with a stable contract from government or situated within government itself.

Given the large number of private providers at the primary care level, it is very difficult for interventions that rely on individual engagement to go to scale. This suggests that interventions that realign structures and incentives through an entire health market may be more promising (5,21). While regulatory constraints and penalties are difficult to enforce, system-wide approaches to incentives (such as health insurance reimbursements) and enablers (such as IT-based notification and payment platforms) may show more promise.

What we know about how private provider engagement may be stimulated

The text above and existing literature (39) have established that, to achieve private engagement at scale, a systemic effort is needed. This includes not only attention to proximate enablers, such as demonstration models, plans and guidelines, but also efforts that address underlying attitudes, capabilities and systems, such as empowering advocates and champions with compelling evidence, building system capacities in ICT, strategic purchasing and regulatory mechanisms, and identifying and strengthening intermediary partners.

Recognizing that engagement of private providers depends on local systems and institutions, external funders and technical agencies have supported it by intervening at both distal and proximate points of leverage. Following are some of the main activities that have been deployed to stimulate greater engagement of private providers by TB programmes.

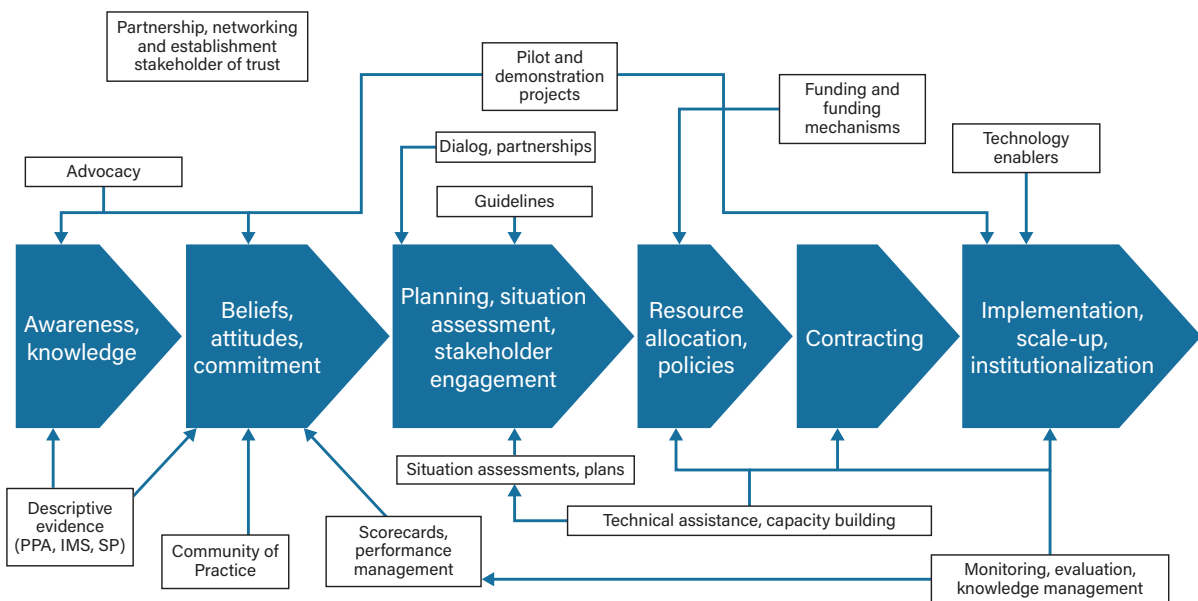
1. *Support advocacy:* Leaders of WHO's Global TB Programme and the Stop TB Partnership have used their positions to call for improved engagement of private providers, and since 2006 international strategies have included engagement of private providers. These interventions contribute to the establishment of a norm within the TB community.
2. *Generate descriptive evidence:* Since the 1990s there has been a steady accumulation of published evidence on the importance of private providers for TB prevention and care, with considerable advances in recent years thanks to Patient Pathway Analyses, Standardized Patient Studies, Prevalence Surveys and modeling from market research data.
3. *Support Champions and the Community of practice:* The PPM Working Group (formerly PPM sub-group of the DOTS Expansion Working Group) has received sustained financial and technical support from USAID and WHO and served to maintain attention and facilitate supportive linkages between and amongst champions of this work. Through its publications and meetings, it has increased awareness and understanding of the need for PPM and of effective approaches.
4. *Fund pilots, demonstration projects and implementation at scale:* Funders and NGOs have supported and implemented dozens of pilot and demonstration projects. Many or most achieve small-scale results and are not sustained: the implicit assumption of a simple linear relationship between evidence and behaviors is often overstated. Nevertheless, projects have contributed to a steady increase in evidence, experience, capacity and lessons learned; have sometimes changed the attitudes of NTP managers and other TB stakeholders; and some have gone to some scale and become institutionalized. Few TB funders have the resources or mandate to support implementation at scale and, as noted above, the failure to tap into domestic resources has hampered scale-up.
5. *Develop guidelines:* WHO has published several sets of guidelines on various aspects of PPM: situation analysis, implementation, monitoring and evaluation, and implementation for MDR and TB/HIV in the private sector (see page 18).
6. *Conduct situation assessments and develop PPM plans:* WHO and USAID have provided support to situation assessments and for the development of national action plans for PPM, and the integration of those plans into National Strategic Plans for TB and Global Fund proposals. Interventions across multiple countries (such as efforts for 11 countries of EMRO and AFRO in 2006–7 and 10 countries of AFRO in 2016–17) seem to generate some awareness but overall be less effective than more intensive and sustained support to generate detailed plans with genuine local support (e.g., Bangladesh in 2016, and Nigeria and Philippines in 2017). These efforts are also more likely to be effective if key actors in the country are already predisposed to increasing PPM, and if the planning exercise is timed to feed into national TB plans and significant funding cycles, such as those of the Global Fund and World Bank.
7. *Facilitate dialogue and partnerships:* Support has been provided to professional associations, to improve the private sector's capacity to engage in dialog and partnership, and for meetings that serve to bridge the gap between public and private sectors.
8. *Build enabling ICT tools and systems:* More recently, we have seen that technology tools can play a critical role in enabling PPM, although this potential remains latent in most settings because TB programmes have been slow to embrace ICT. Promising examples include Nikshay and eNikshay in India, adherence support tools such as 99DOTS, and notification and patient management apps in use in Bangladesh, Indonesia and Pakistan.
9. *Provide technical assistance:* Given the variety of perspectives needed for this work, staff capacity for analysis, planning and implementation is typically weak. WHO PPM Consultants and others have often played a critical role in supporting the entire process.
10. *Build enabling regulatory and financing capacities:* Health systems strengthening projects funded by USAID and others are addressing issues required for governance of the private health sector, such as establishing the legal authority and operation of medical councils (in Cambodia), and benefit package design and other issues of strategic purchasing (in Indonesia and Nigeria, amongst others). The TB

pay-off from these efforts is not immediate but they create the foundation for a more sustainable and embedded response.

11. *Structure funding mechanisms:* International donor agencies have provided financial resources directly, to develop and sustain PPM projects, and have collaborated to create wholesale funding mechanisms such as the Global Fund, the Global Fund Catalytic Funding mechanism, Fidelis and TB REACH. Staff of these funding mechanisms and proposal reviewers need support to understand private provider engagement.
12. *Support monitoring, evaluation and knowledge management:* Journal articles and systematic reviews serve to define, legitimize and codify knowledge, and interact with preconceptions and ideology to shape beliefs within the TB community. Examples include the range of monitoring and innovative evaluation research around the PPIA interventions in Mumbai and Patna. More disaggregated data, especially on private for profit provider notifications and treatment outcomes, should be compiled in countries and globally.
13. *Create scorecards for performance management:* WHO's annual global TB report serves a critical function in collating performance data in a format that encourages stakeholders to compare and contrast country performance and measure changes over time. This capability has not yet been fully applied to PPM.

Figure 3, below, illustrates the role of these interventions in influencing the process by which private provider engagement may be adopted and institutionalized within a country. This is clearly an example of complex systemic evolution in which outside intervention often plays a limited role. Interventions at any single point in the process may be ineffective in the absence of appropriate conditions or complementary interventions upstream and downstream, and multi-faceted interventions at multiple points in the process are more likely to be effective than single, simple interventions. Tipping points or threshold effects are to be expected: interventions may have some immediate effects that are insufficient to catalyze systemic change.

FIGURE 4. INTERVENTIONS TO ENCOURAGE PRIVATE PROVIDER ENGAGEMENT AT THE SYSTEM LEVEL



Performance management

Some high-burden countries with substantial private healthcare sectors still struggle to record the number of notifications by sector, and only Bangladesh seems to be able to comprehensively track the source of referrals. WHO has focused on measuring PPM's contribution to case finding expressed as the proportion of

case notifications contributed by PPM providers. As indicated above, inclusion of non-NTP public providers and NGOs, along with private for-profit providers, is misleading in countries where for-profit providers dominate primary healthcare. In addition, contribution to total case notification can be misleading because it is dependent on the overall NTP case notification rate. Private for-profit notifications as a percentage of estimated incidence is a more appropriate measure of performance in case finding, while multiplication of this figure by the treatment success rate amongst private providers would address quality of care and capture ultimate impact. Such a measure of effective coverage would be aligned with recent effort to develop composite measures of progress towards UHC. (40)

WHO recently suggested that inventory studies could be used as a basis for setting appropriate targets for PPM contributions, and that the target level for PPM contributions should be $c(1-U) + U$, where c is the current PPM share of total notifications and U is the level of under-reporting.²² The problem with this is that it fails to consider the often large proportion of publicly-notified patients who first seek care in the private sector. A simpler and more useful way to set the target for private provider notifications would be to multiply estimated incidence by the private share of primary health-seeking behavior, perhaps adjusted by the feasibility of engaging each provider type.

Annex 2 presents a list of potential performance indicators designed to capture prioritization of private provider engagement, as well as its scale, quality and impact. Many of the key indicators are disaggregations of data already collected. As a first priority, TB registers need to be modified to classify the notifying facility on two dimensions: sector (private for-profit, private non-profit, public NTP, public non-NTP) and level (primary, secondary or above). This is possible even with paper-based aggregate data, but is much easier if the program has a digital case-based notification system. Ideally, the provider will have a unique identifier, since this would not only reduce data entry (because the sector and level would already be specified) but also permit indicators that show real coverage of private practitioners by type and permit analysis of drop-out rates and yields. With a case-based digital registration system and basic identification and characterization of providers, many of the indicators may be automatically generated from the TB data system.

Data for some indicators could be generated either from the routine notification system or by sample surveys, using the TB registry as a sample frame. This applies to care-seeking prior to treatment, patient costs and public funding.

Some additional data collection beyond the TB data system is also required:

- Analysis of budgets and expenditures, using a consistent approach to capture staff, operations, shared and indirect costs;
- Surveys of randomly-sampled patients to understand care seeking, expenditures and catastrophic costs;
- Inventory studies to estimate notification gaps;
- Mapping to estimate provider coverage;
- Standardized Patient surveys of providers to quantify their behaviors and assess quality of care;
- Analysis of data from other surveys (Demographic and Health Surveys, TB Prevalence Surveys, Living Standards Measurement Surveys, etc.) to estimate shares of early care-seeking by sector and level;
- Analysis of market research data on private TB drug sales volumes to estimate treatment-course equivalents.

This implies considerable additional effort in data collection and analysis, which would be consistent with appropriate prioritization of this issue.

Implementers and technical agencies

The field of private provider engagement for TB needs to be strengthened and taken to scale in countries. Lessons can be learnt from efforts to engage private markets for other issues, including family planning.

²² WHO *Global TB Report* (2017). The current private sector contribution to the current case finding is added to the remaining, unnotified gap in private sector treatment as identified by the inventory study.

This is primarily a consequence of lack of funding for this work, but the lack of strong implementing organizations also constitutes a constraint once funders and policy-makers begin to show interest (as in Nigeria and Indonesia currently).

A distinction may be made between technical assistance contractors and organizations that might take on the role of intermediary between the NTP and private providers. Technical assistance agencies may be contracted for time-bound assignments in support of NTPs, such as developing payment schemes or ICT systems or facilitating the development of plans. Such organizations obviously need to be competent in the specific areas of work for which they are contracted and are likely to be more effective if they have longstanding relationships with their counterparts. There are more potential technical assistance contractors than there are effective implementation intermediaries.

Compared to technical assistance contractors, intermediary agencies require different characteristics. The ideal profile of an intermediary agency is more complex and includes the following attributes:

- Understanding of market dynamics and experience of working effectively with private providers, preferably at some scale;
- Basic understanding of TB diagnosis and treatment, monitoring and evaluation;
- Credibility in the health sector; aptitude for advocacy and relationship management;
- Entrepreneurial, mission-driven commitment to long-term presence and impact in the country, rather than a temporary contractor mentality;
- Pre-existing core capacities: accounting and financial management; data management, mapping, monitoring and evaluation; field operations and logistics; supply chain management; human resources management; communication; training; project cycle management; fundraising;
- Continuing relationships with private healthcare providers for other purposes, which not only facilitates start-up but also cost-sharing and efficiencies;
- Access to international ideas and latest best practices;
- Organizational culture that favors innovation, adaptation, creativity and results-driven performance;
- Costs (especially indirect costs) that are competitive and low enough to accommodate Global Fund and government contracting.

There is clearly a need for both technical assistance organizations and implementing organizations. They perform different functions, and the success of each kind of organization is enhanced by the other. By themselves, intermediaries will quickly run up against constraints around the government stewardship functions such as licensing, accreditation, enforcement, outsourcing, and strategic purchasing.

In Bangladesh, Pakistan and Myanmar, engagement of large numbers of private primary care providers has been led by strong NGOs acting as intermediaries between providers and the NTPs. They have done so not as contractors implementing a particular time-bound project, but as mission-driven NGOs that have identified private provider engagement for TB as part of their long-term role and that have succeeded in attracting resources from multiple donors to sustain their work over multiple project cycles. Some are generalist NGOs, such as BRAC in Bangladesh and Mercy Corps in Pakistan; others, such as Damien Foundation in Bangladesh and, recently, IRD in Pakistan, are more focused on TB. Population Services International (PSI)/Myanmar, SMC in Bangladesh and Greenstar in Pakistan are social marketing organizations that have long engaged private markets for family planning and other health issues. They have in common the ability to operate at scale, strong management systems (including human resources, information systems and logistics), dynamic leadership, an aptitude for adaptation and innovation, and success in fundraising.

Specialist TB technical agencies, such as WHO itself, KNCV and International Union Against Tuberculosis and Lung Disease (The Union), have tended to focus on public provision. Interactive Research and Development (IRD) is a relative newcomer, based in Pakistan but with activities in South Africa, Indonesia, Bangladesh and elsewhere, that is unusual in that it focuses on private and social enterprise models with technology. The American Thoracic Society (ATS) has engaged private chest specialists in high burden countries in support of the International Standards of TB Care, which is consistent with its domestic role as a professional society in the USA. All of the agencies mentioned in this paragraph are part of Challenge TB, USAID's current global flagship technical support mechanism for TB.

Table 8. Main agencies leading private sector engagement on behalf of NTPs, by area of focus

Private sector health	General and health	TB
PSI (India, Myanmar)	BRAC (Bangladesh)	WHO
Abt (Nigeria, Ethiopia)	PATH (India and other countries)	KNCV
WHP (India)	Mercy Corps (Pakistan)	IRD
CHAI (India)	MSH (Afghanistan and other countries)	The Union
Greenstar (Pakistan)		ATS

Organizations that have developed deep capabilities in private markets for health by working in family planning, HIV and malaria include Population Services International (PSI), Abt Associates, World Health Partners (WHP) and CHAI. PSI has substantial programmes in around 60 countries, but TB is a very small part of their portfolio; large independent affiliates of PSI include GreenStar in Pakistan (which is active in TB) and Society for Family Health (Nigeria). Other health social marketing organizations, notably DKT and Marie Stopes International, decline to work on TB because they are focused almost exclusively on family planning. Other general USAID contractors have from time to time won contracts to work on private sector health, especially in family planning, but are not currently active in private sector TB.²³

A few organizations that are strong in health and other areas, notably BRAC, PATH, Management Sciences for Health (MSH) and Mercy Corps, have niches of capability in both TB and private sector engagement, even though neither is their main focus.

Donors and funding

The amount of funding available for engaging private providers in TB prevention and care has been woefully inadequate, but qualitative aspects of available funding are also important. Especially in its early stages in a given country, there is a need for funding that is conducive to innovation in complex systems. Such funding must encourage flexibility and adaptation (with minimal restrictions on line items and timing) and be patient, looking for medium-long term transformative impact rather than short-term incremental gains. Funders of such early-stage innovation must be supportive and challenging thought-partners but should avoid micro-managing. For this kind of work, it is important to select implementers with the right attributes, sometimes bringing in new partners or sub-contractors as needs change. The aim should be partnership between groups with complementary strengths while avoiding the artificial time-bound consortia that come together just to bid on projects.

Over time, interventions in a country may stabilize such that more bureaucratic sources of funding can help to drive scale-up, even though there will always be a need for continued learning and adaptation. At present, Indonesia and Nigeria may need flexible funding of innovations, while India, Pakistan, Bangladesh and Myanmar may be able to absorb funding more suitable for scale-up.

The main sources of funding for TB care are domestic, with international funding in low income countries provided by the Global Fund (primarily for implementation) and USAID (primarily for technical assistance). With the exceptions of China and South Africa, the top 10 countries by TB incidence are heavily dependent on international development assistance for funding of their TB programmes (2) – although even in these countries the actual delivery of TB services relies heavily on the general, domestically funded health system.

Governments

The national government budget is the main source of funding for TB prevention and care in the Russian Federation, Brazil, China, India, Indonesia, South Africa and Thailand (2). Ministries of Health tend to be very reluctant to transfer budgetary resources to private entities, for reasons related to ideology and

²³ They include Chemonics, Palladium, and Deloitte Emerging Markets

self-interest but also because of concern about potential allegations of procurement fraud. Particularly in lower income countries, these budgets also typically have little flexibility or discretionary money for new activities, with most fund flows going to recurrent salaries and commodities. Ministries are usually quite willing to provide in-kind resources (drugs and lab consumables) to selected private providers under close supervision, which is often all that private health care providers need in order to participate in a program, and funding flows to private providers for curative care, via established social health insurance schemes, are also acceptable. But governments are very reluctant to provide significant funding to intermediary organizations. Precedents in other fields (such as family planning, ambulance services or HIV in India) don't tend to be replicated by TB programmes. In India, just 1.5% of state-level expenditure by the RNTCP in 2008 was for various "schemes" for engaging NGOs and private providers (41). Significant expenditure on the intermediary function depends on development of the capacity for outsourcing and contracting through government systems.

The Global Fund

In 2017, 62% of international development assistance for TB was channeled through the Global Fund (42).

An analysis of Global Fund support for PPM found that, by 2008, 4% of TB funding and 5% of expenditure were for PPM. However, this included engagement of NGOs, prisons and other non-NTP providers: by 2008, only 15 countries (26% of Global Fund TB recipients) included funding for engagement of private providers (43). More recently, less than 3% of Global Fund resources have been dedicated to PPM, although that may be increasing since 2015 (see Table 9). Table 9 also shows large shifts in PPM funding over time: sustained and substantial funding in India and Pakistan, substantial decreases in Myanmar, Afghanistan and the Philippines, and substantial increases in Nigeria, DR Congo and Ethiopia. This data should be treated with caution because of both inclusion and exclusion errors. Much of this funding continues to be dedicated to public-public mix and to community-based social mobilization, rather than engagement of private providers.

Table 9. Global Fund budgets for TB and TB PPM, 2002-14 and 2015-17, USD millions

Country	TB Budget 2002-14	TB PPM Budget 2002-14	%	TB PPM Budget 2015-17
India	374.7	18.2	5%	19.7
Pakistan	187.1	7.4	4%	18.2
Myanmar	76.4	5.1	7%	1.6
Philippines	115.0	4.7	4%	0.9
Bangladesh	102.8	3.9	4%	0.7
Indonesia	275.9	2.6	1%	2.8
Afghanistan	28.4	2.4	8%	0.3
Nigeria	153.7	0.7	0%	4.7
DR Congo	110.2	0.04	0%	2.3
Ethiopia	123.6	0.01	0%	2.6
Total	1,547.7	45.2	3%	53.9

Source: M. Yassin presentation, Dar es Salaam, February 2017

For 2017-19, the Global Fund Board has set aside US\$800 million for Catalytic Funding, including US\$115 million in 12 countries for innovative initiatives to find missing cases. The funds are to be matched from the country's much larger general allocation, resulting in up to US\$230 million of resources. It seems that an increasing proportion of funds is being allocated to PPM, especially in India and Pakistan.

Global Fund guidance on private provider engagement for TB needs to be strengthened. There is a 22-page "Core Information Note" on TB, which includes substantial discussions of every other topic but only two passing references to engagement of private providers.²⁴ The Global Fund provides **15 technical briefs for applicants** but few of them address TB and none address engagement of private providers for TB, although two excellent resources address private provider engagement for malaria: "Malaria case management in the private sector" and "Use of a private co-payment mechanism to improve access to ACTs". Similar resources are needed for TB.

24 One clause in a list on page 10; 1 of 8 bullets in Box 1 of p. 13

The Global Fund's role in supporting private provider engagement in TB may be constrained by several factors:

- In spite of the Global Fund's multi-sectoral aspirations, Ministries of Health mainly determine the allocation of resources within grants, and they have a preference for public sector provision;
- Global Fund guidance on TB private provider engagement is weak, and bilaterally-funded technical assistance to support the design of Global Fund projects has not always led to strong private provider engagement components, with again a default to public sector priorities;
- Systems of grant design and management favor routine, predictable, linear activities, whereas good private provider engagement requires adaptation and creativity;
- Global Fund policies on indirect cost recovery (limited to 7% for sub-recipients) discourage participation of some major organizations that have strengths in private provider engagement.

USAID

The United States is the largest bilateral funder of TB prevention and care. In 2017, USAID funding for TB totaled US\$ 244.4 million; when combined with the United States contribution to TB activities through the Global Fund (totaling US\$ 1.35 billion across all three diseases), the United States contributed 28% of total international development assistance for TB (42).

USAID TB support has been channeled in part through a series of flagship projects: TBCTA (2000–2005), TB CAP (2005–2010), TB CARE I (2010–2015), TB CARE II (2010–2015 in countries) and now Challenge TB (CTB, 2014–2019). Each has consisted of a consortium of implementing organizations. CTB is led by KNCV and includes ATS, FHI 360, IRD, The Union, Japan Anti-Tuberculosis Association (JATA), MSH, PATH and the WHO.

USAID programmes are largely determined by national and international staff in country-based missions with varying degrees of expertise in and time available for TB, with support from a central TB team of 22 specialists including one person leading on engaging private providers. In general, USAID has tended to be more supportive of private sector approaches than other funding agencies. USAID has supported many PPM pilot or demonstration projects over the years and has also provided critical policy and financial support to the WHO PPM Working Group, to private sector assessments, and for development of PPM plans in several countries.

Some notable interventions developed with USAID-funded TA and resulting in significant contributions to notification include the Hospital-DOTS Linkage (HDL) model (TB CARE I Indonesia), pharmacy referrals (TB CARE I Cambodia), development and expansion of the accredited drug-dispensing outlets (ADDO) programme in Tanzania (along with other donors),²⁵ engagement and policy support for private sector clinics (PHSP Ethiopia; a sustained achievement of ~14% of national notifications), urban provider engagement by professional associations in Kenya and Indonesia, and district-based PPM approaches under Challenge TB Indonesia.

A number of the current broad TB technical assistance projects (in Bangladesh, Indonesia, Philippines, and Nigeria) prioritize private provider engagement, among other topics. Recently, the largest of these efforts has been under Challenge TB Indonesia, and future activities are planned for both Indonesia and the Philippines (see descriptions in the country profiles below). Another project, PHSP Ethiopia, is notable for being dedicated entirely to private provider engagement, working on both policy and implementation, and increasing its impact by accepting funding streams from multiple health areas. There are also dedicated private sector engagement projects in India (Tuberculosis Health Action Learning Initiative, or THALI) and Nigeria (SHOPplus Nigeria). In 2017, the WHP-led THALI project contributed 7922 private notifications, or 75% of the total private notifications, in an urban population of 14 million in six districts of West Bengal.²⁶

²⁵ See, for example, the Annex at http://www.who.int/alliance-hpsr/resources/FR_Ch5_Annex1.pdf. There are also many peer-reviewed publications on the ADDO experience.

²⁶ Source: India TB report, 2018 (page: 50) Available at: <https://tbcindia.gov.in/showfile.php?lid=3314>

Thus, out of the six high burden countries with the most missing cases and high private provider presence (India, Indonesia, Nigeria, Philippines, Pakistan and Bangladesh), there are USAID private provider engagement efforts in all except Pakistan, which does not currently have USAID TB bilateral funds. USAID has also financed a dedicated private provider engagement stream as part of Wave 6 of TB REACH (see next section), in order to stimulate the development of more intermediary organizations.

Recent USAID projects working on health financing and policy issues related to private provider engagement, in multiple countries, included the Health Finance and Governance (HFG) and Health Policy Plus (HP+) projects. These projects have, for example, worked on actuarial analyses and development of social health insurance packages for TB in several states in Nigeria, and on a reform process for TB payments under social health insurance in Indonesia.

On a broader level, initiatives such as USAID Forward (<https://www.usaid.gov/usaidforward>) and the current emphasis on resilience (<https://www.usaid.gov/resilience>) have promoted development of the kind of local institutional capacity that is important for private provider engagement, though such a task is of course not simple for any donor.

While USAID has supported much of the progress that has been made in private provider engagement, its role is sometimes constrained by several factors:

- Because USAID is often the only significant funder of TB technical assistance in many of the high burden countries (with Global Fund covering more of the implementing costs), there is pressure from NTPs and other stakeholders for its investments to cover a wide range of areas, including technical assistance around many different TB topics, plus support of major studies (such as prevalence surveys), and often TB staffing of WHO country offices. Therefore, project design may either neglect private provider engagement in favor of other priorities, or address only one or two of the dozen or more constraints to private engagement;
- USAID TB technical assistance money is intended to drive innovation and smooth the pathway to scale-up via the use of other funding sources. But the volume of USAID TB money is not sufficient to act as an ongoing source of implementation funds at scale. The difficulties noted above with adoption of private sector engagement by government and Global Fund sources therefore threaten ongoing impact;
- Procurement procedures are often slow and unwieldy. Projects are designed to run for 5 years, which is longer than the 3 year cycle seen in recent Global Fund grants, though they are subject to an annual funding and workplan cycle. These factors are mitigated by, respectively, the use of subcontracting (for mid-course corrections and flexibility) and the establishment of 5-year country visions and objectives at the start of a project such as Challenge TB. In some cases (such as KNCV's leadership of successive projects in Indonesia) implementers may win successive awards that enable them to work on issues over 15 years or more.

TB REACH

Since 2003, Global Affairs Canada has supported mechanisms to provide relatively small-scale funding for innovations in TB prevention and care: FIDELIS, 2003–2008, and TB REACH since 2010. The Gates Foundation and USAID have joined Canada in funding TB REACH, which is managed by the STOP TB Partnership. *"It combines fast-track, results-based financing and rigorous, external monitoring and evaluation (M&E) to produce results, so other donor agencies and/or national governments can scale-up successful approaches and maximize their own investments."*

TB REACH provides up to US\$400 000 for proof of concept grants, and up to US\$1 million each for focus on scalability grants; larger grant applications are by invitation only. Projects typically last 15–18 months, with selected successful projects eligible for larger amounts over repeated rounds. In the first five waves, it provided US\$102.4 million to more than 180 projects in dozens of countries. The aspiration is that successful projects will transition to Global Fund funding, and this has happened in a few cases. Eligible countries for Wave 5 numbered 100. There is a 15-member Proposal Review Committee, but until Wave 6 none of the members had particular expertise in private provider engagement. The TB REACH website includes information notes for applicants on community outreach, innovative partnerships, and new tools

and technologies, but (until Wave 6) nothing on engaging private providers. Examples of successful PPM projects include:

- ICDDR,B piloting of “social enterprise” TB diagnostic centers at 3 sites in Dhaka, expanding to 10 with Global Fund and USAID support;
- IRD in Karachi (with Indus Hospital) over 3 rounds, also transitioning to Global Fund;
- Uganda SPARK in 5 districts, expanding to 10 districts with Global Fund support

Funding for Wave 6, launched in October 2017, includes a USAID-funded earmark for projects designed to engage private providers, especially in the 12 countries prioritized by the Global Fund for catalytic funding. For this Wave, an excellent guidance note was developed to strengthen applications involving private provider engagement.

This is potentially a good mechanism for stimulating innovation, developing the capacity and experience of potential intermediary agencies, testing and developing interventions and transitioning them to scale. It can also be a valuable way to support organizations that may be too new or too small to qualify for Global Fund funding. The risk is that it might support a large number of small pilot projects that don't go to scale. It could avoid this by becoming a more “active” investor (as in Wave 6), focusing on a small number of high-priority countries and picking implementers more deliberately.

World Bank

World Bank lending and technical support is focused on health systems, especially primary care, and their emphasis tends to be on public provision. Few projects are focused on TB (44):

- A US\$122 million project launched in December 2016 will strengthen TB prevention and care in Lesotho, Malawi, Mozambique and Zambia, with a special focus on the mining sector;
- A new, US\$15 million project in 2017 is expected to focus on MDR-TB prevention and care in one island of PNG;
- A US\$100 million TB loan to India (2014–2018) was originally intended to include a focus on PPM but was not implemented as planned;
- A major new project in India (2019–2025) is expected to include a substantial focus on private provider engagement.

The World Bank is indirectly relevant to private provider engagement via its more technical work to strengthen data systems (including its participation in the Primary Health Care Performance Indicators Initiative, PHCPI), strategic purchasing and Universal Health Coverage. Since 1997, thousands of government officials and others have participated in the World Bank's flagship Health Financing course, which covers issues such as strategic purchasing and payment mechanisms. There is potential for World Bank funding flows to help develop and strengthen government outsourcing arrangements, which could then be applicable to supporting private provider engagement.

Bill & Melinda Gates Foundation

In 2017, the Bill & Melinda Gates Foundation provided US\$228 million for TB, which was 13% of the total development assistance in this area. Of this, US\$70 million was channeled through the Global Fund and approximately 80% was invested in research and development to improve drugs, diagnostics and vaccines (42). However, over the last 10 years the Gates Foundation has supported important initiatives to improve engagement of private providers for TB in Myanmar, China and India.

From 2008 through 2013, the Gates Foundation supported expansion of the Sun Quality Health (SQH) social franchise model in Myanmar, as part of a US\$25 million grant that spanned family planning, HIV, pneumonia and diarrhea as well as TB. PSI had begun to integrate TB diagnosis and treatment into the SQH network in 2004. PSI/Myanmar has been able to sustain this intervention over 13 years and to continue adapting intervention strategies (adding patient support and active case finding via community health

workers, and beginning to engage pharmacies) although results have stagnated for lack of funding. Other funding has been provided, at different times, by PSI, USAID, DFID, Global Fund and others.

Gates Foundation support for innovations in TB delivery in China has included reform of provider payment mechanisms under social health insurance schemes since 2009.²⁷ The key healthcare financing interventions include increasing insurance reimbursement rates for TB/MDR-TB diagnosis and treatment, capitation for primary care providers, and case-based payments for hospital care providers. Financing for TB prevention and care has significantly increased; TB case detection and management have improved; and the cost of services has declined. While these interventions affected all publicly-owned facilities, those facilities behave much like for-profit providers in other countries, and lessons from China could inform efforts to engage private providers through social health insurance mechanisms elsewhere.

Since 2012, the Gates Foundation has dedicated two staff members and about US\$40 million to develop and demonstrate effective models and solutions for private provider engagement for TB in India. Interventions in two urban areas and one rural district have increased case-finding up to 5-fold, accelerated uptake of new diagnostics and demonstrably improved quality of care at costs that are comparable to those of the public sector program. Through innovative approaches to monitoring and evaluation, the program is demonstrating striking impacts on private drug sales, provider behaviors and patient pathways to care, as well as case notification. Unlike many other private provider engagement projects, this was an example of a multi-dimensional approach to systems innovation, including advocacy, development and deployment of critical ICT enablers, and multi-faceted formative and evaluative research, as well as large scale interventions. The role of in-country foundation staff, in articulating a vision and a road map and deftly coordinating multiple partners, cannot be over-estimated.

The Gates Foundation role in this area is constrained by its strategic focus on developing new drugs, diagnostics and vaccines, and by its limited in-country presence.

Summary strengths and weaknesses of TB funders regarding private provider engagement

The strengths and weaknesses of different potential sources of funding for private provider engagement may be summarized as follows (Table 10).

Table 10. Summary strengths and weakness of funders for TB private provider engagement

Funder	Strengths	Challenges
Government	Long term major funding	Strong tendency to fund public provision NTPs' lack of experience in outsourcing
Consumers	Significant funding (50%-78% of total health expenditure in priority countries)	Fragmented, un-pooled Impoverishing effects Barrier to appropriate care
Private equity	Substantial resources Increasing role in emerging markets Business acumen	Focused on curative care for elite TB associated with stigma and government programmes
Global Fund	62% of international funding for TB Increasingly proactive	Public sector capture Weak guidance on private provider engagement Less conducive to innovation and adaptation

27 Thanks to Hong Wang for this paragraph

Funder	Strengths	Challenges
USAID	28% of international funding for TB Traditional interest in private sector ~ 22 countries	Competing priorities Challenging pathways to scale
World Bank	Significant funding and policy influence UHC and strategic procurement	Few TB-specific projects Public sector focus (client driven)
Gates Foundation	Flexible Orchestration of innovation	Low priority Few country offices
TB REACH	Preference for innovation Flexible funding	Small and brief projects Little capacity for strategic investment in PPE



3 RECENT COUNTRY EXPERIENCES

Annex 1 summarizes in Table form some of the key features of private provider engagement in seven out of the ten highest-burden countries that have dominant private primary healthcare sectors; these situations are further described in narrative form below. These sections are not intended as comprehensive accounts of private provider engagement in each country, but are designed to highlight some salient features.

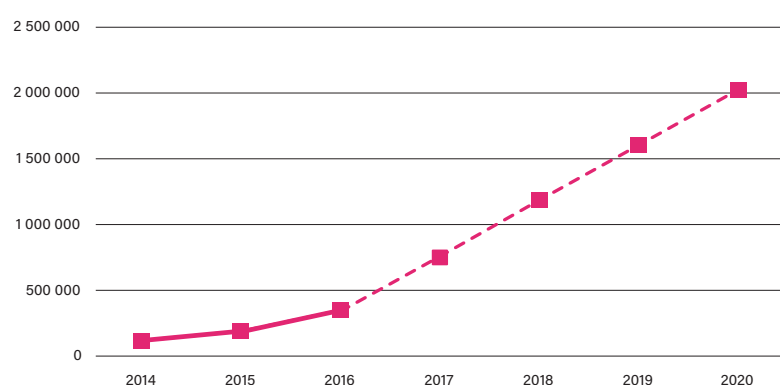
India

In the last three years, India has made dramatic gains that suggest the potential to achieve even greater scale. The Revised National TB Control Programme (RNTCP) had articulated various “schemes” for engaging private providers since 2002, but they were never prioritized and depended on the initiative of over-stretched local officials. Joint Monitoring Missions in 2003, 2006, 2009 and 2012 all noted the same lack of attention to the issue, in spite of various USAID and Global Fund projects. The 2008 review found that just 1.5% of expenditure was dedicated to schemes to engage NGOs and private providers. The 2012 review noted that a new Composite Index for monitoring performance within the RNTCP had allocated just 4% of points to efforts to improve engagement of private providers and NGOs, and it estimated that private providers contributed just 2–3% of case finding that year.

The foundations of a new approach were laid in 2012, with the development of a case-based electronic TB case notification system (*Nikshay*), issuance of decrees banning serological tests and making TB notification mandatory, and the decision to align RNTCP regimens with those commonly used in the private sector by adopting daily Fixed Dose Combination drugs. Starting in 2014, high-profile interventions in Patna and Mumbai began to demonstrate dramatic increases in case notification on a relatively large scale. By the end of 2016, 113 961 private providers had registered in *Nikshay* and notified cases. Private provider notifications increased more than eight-fold to 383 784 in 2017, 21% of the total and 14% of estimated incidence.

India’s National Strategic Plan for TB (2017–2025) calls for a further six-fold increase to two million private notifications per year by 2020, which could represent 75% of estimated incidence at that time. The new plan projects a three-fold budget increase. The request to the Global Fund for 2018–20 includes US\$36 million (13% of the total) for Principal Recipients dedicated to scaling up private provider engagement across 33 cities and establishing strategic purchasing capacity in 23 states. In 2017, India began to

FIGURE 5. PROJECTED TREND IN PRIVATE PROVIDER NOTIFICATIONS IN INDIA, 2014-2020



scale-up digital adherence monitoring and (in 2018) direct cash transfers to patients and private providers. There appears to have been a major change in attitude towards private provider engagement within the RNTCP, in line with a new National Health Policy in 2017 that stresses private provider contracting via strategic purchasing (45).

If India's plan succeeds, it will be the first major high-burden country with a dominant private healthcare sector to align its TB programme with the care-seeking patterns of its population. Risks and challenges are many, especially to ensure quality treatment outcomes amongst privately notified patients, but several dynamics seem to have combined to take the India program through a disruptive innovation to partner genuinely with private providers on a scale commensurate with their role in the health system.

Indonesia²⁸

Indonesia has a large and growing private healthcare sector, including 24 716 pharmacies, 8615 licensed drug shops and more than 1500 private hospitals. There are 110 000 registered general practitioners, although the number actively practicing is much lower; many are also employed in government service and practice privately only part-time. The numbers of private hospitals groups and general group practices have doubled in four years. The number of private laboratories is not known.

Private healthcare providers (including pharmacies) accounted for 74% of the initial care-seeking behavior of people with TB in Indonesia and 42% of treatment but only 9% of TB notification. An estimated 70 000 private primary care providers are responsible for 19% of initial care-seeking and 21% of TB treatment, and yet in 2015 just 87 of them notified an average of 46 cases each to the NTP, contributing just 1% of total cases: 63% of these private GP notifications came from just 3 provinces (DKI Jakarta, Aceh and Sumatera Utara) and 17 provinces reported less than 10 notifications by private general practitioners. In 2015, 464 private hospitals notified an average of 57 cases each.

The importance of engaging private providers has been recognized in national TB plans since at least 2006. For the 2016–20 National Strategic Plan (NSP), “improvement of networking TB services through public-private mix” is one of the main activities under Strategy 2: improving the quality of “TOSS-TB” services. Planned activities include developing technical guidance for district-based PPM, mapping service providers, signing MOU and working with professional societies. The plan includes no target for private provider notifications.

Efforts to engage private providers have focused to-date on specialists and hospitals, where the numbers of patients per provider or facility tend to be higher than at the primary care level. The Pulmonologist Society, PDPI, has been working with the NTP since 2010 to improve involvement of pulmonologists and increase adherence to ISTC/PNPK, in partnership with the ATS and with funding from USAID and Global Fund. This has been a high yield intervention but thus far has typically stopped with the specialists, rather than using the specialists to reach large numbers of general practitioners.

There have been very few efforts to engage private primary care providers. Since 2014 there has been an initiative to certify general practitioners for TB, but it is cumbersome and only 35 general practitioners had been certified by the end of 2016. Meanwhile, the social health insurance scheme had contracted more than 10 000 private General practitioners to provide outpatient primary care, but collaboration between the NTP and the social health insurance scheme remains weak (see below).

28 This section is drawn primarily from the report of the Joint External Monitoring Mission, January 16–26, 2017. See http://www.searo.who.int/indonesia/topics/tb/tuberculosis_jemm_2017_for_ino_website.pdf?ua=1 for the full report.

Table 11. Private primary care facilities and hospitals in Indonesia and their role in TB care

Type	Number of facilities/providers:				Proportion of:			
	Total	Contracted by JKN	Engaged by NTP	Notified any cases 2015	Initial care-seeking	Diagnosis	Treatment (all cases)	Notification (cases in SITT)
Private								
Pharmacies	24,716				52%			
Individual general practitioners	70,000	4,588		87	19%	19%	15%	1%
Group general practitioners		5,183					6%	
Hospital	1,538	1,049	331	464	3%	11%	21%	8%
Subtotal		10,830	331	551	74%	30%	42%	9%
Public								
Puskesmas	10,100	9,813	9,075	8,783	19%	36%	27%	72%
Hospital	955	900	668	510	5%	34%	27%	18%
Total		10,713	9,743	9,293	24%	70%	54%	90%

Total from Indonesia Health Profile 2016, estimating proportion of 110,000 registered General practitioners who are active. JKN data from BJPS. Number of providers notifying, and proportion of notified cases, from SITT. Location of initial care-seeking, diagnosis and treatment from Patient Pathway Analysis, referencing 2013 National Prevalence Survey and 2010 RISKESDAS Basic Health Survey.

More recently, private provider contributions have strengthened in districts assisted by the USAID-funded Challenge TB project (covering a total of over 28 million population). Across this entire population, private providers now contribute 27% of total TB notifications; in individual districts, this ranges up to 44% (in a district of 2.5 million population) or even 48% (in a district of only 500 000). As a result, the total private sector contribution to case notification in these districts have nearly doubled in absolute numbers, increasing from 13 116 in 2015 to 26,534 in 2017. Nationally, private TB notifications in 2017 increased by 55% over 2016 to 52,375 (13% of the total and 7% of estimated incidence). These achievements are based principally on defining the district responsibility to engage hospitals and devolving the responsibility to engage general practitioners to health center staff at the sub-district level. Although Challenge TB has assisted with establishing the initial engagement model (e.g., by establishing hospital TB teams in an additional 87 public and 158 private hospitals from 2015–17), the ongoing engagement is by government staff. This “district PPM” model is in line with the decentralized governance of Indonesia and is now national policy. Its rollout is prioritized under the Global Fund catalytic financing and will be further strengthened under a future USAID-funded project dedicated to TB private provider engagement in Indonesia.²⁹ A mobile application for private provider notification called WiFi TB³⁰ and a reduced data requirement from private providers should also assist in this process. The government, with technical assistance from the USAID-funded HFG project, is also in discussions about modifying the social health insurance purchasing arrangements to better support TB notification and care.

29 https://www.fbo.gov/index?s=opportunity&mode=form&id=504975c54f2e702eb2aff61ad876c6ef&tab=core&_cview=1

30 See https://pdf.usaid.gov/pdf_docs/PA00SWTN.pdf

Philippines³¹

The Philippines has long been considered an exemplar of private provider engagement. It was an early success story, with engagement focused on specialists and hundreds of hospitals – the hospital engagement, in particular, was a well-organized effort conducted at national scale. By contrast, efforts to work with general practitioners, labs and pharmacies have been sporadic, small and short-lived, and very little is known about the 7000–15 000 private General practitioners. The 52 000 private notifications/referrals in 2017 represent 16% of the total notifications and 9% of estimated incidence.

This contribution percentage is not that different from that seen in India (see above; 21%), but there are several important differences between the current Philippines and India situations. First, in the Philippines, the private sector contribution has not increased significantly in recent years. Second, the contribution in the Philippines is more evenly spread across the country. In India, if the pockets of high achievement spread, there is a clear pathway to greater achievement; the same is not true for the Philippines. Third, there is fatigue in the Philippines from 15 years of project-based support from five USAID projects and four rounds of Global Fund, and the desire for a more institutionalized approach. Fourth, the current models remain discouraging for private providers (see below). Hence, the country has recently settled on a pathway towards more provider-friendly models and greater sustainability, and aims to use outsourced government financing to support a more sustained version of private provider engagement.

Islam et al (46) analyzed IMS data and estimated that private sales of 4 fixed-dose combination medications were sufficient for the intensive phase of treatment for 250 000 TB patients per year 2007–2011 (in addition to 3 fixed-dose combination medications and loose drugs that are harder to analyze), which is consistent with the earlier estimate by Wells et al and substantially higher than the 195 560 cases registered by the NTP that year. On the other hand, the 2016 National Prevalence Survey found that 21% of those who had taken anti-TB drugs since 2011 and 22% of those currently on treatment took them from private sector sources.

The two main NGO partners for the TB Program are the **Philippines Coalition Against Tuberculosis (PhilCAT)** and **Philippines Business for Social Progress (PBSP)**. Founded in 1994, **PhilCAT** describes itself as “a 63-member coalition of government and non-government organizations, academe, medical and non-medical professional societies, research organizations, patient and advocacy groups, corporate foundations and pharmaceutical companies”³². It organizes an annual TB Convention and World TB Day events. It has also led many PPM activities with successive grants funded by USAID and Global Fund. **PBSP**, founded in 1990, claims to represent more than 260 businesses. Income in 2015 was US\$43 million, almost all from international donors. Health is just one of several major areas of work. It has been a Principal Recipient for Global Fund since 2010 and it implemented the USAID “IMPACT” project. Current staff dedicated to TB number 80 in the head office and around 560 in the field (before the recruitment of a further 150 under the new GF project).

USAID supported the development of a National Action Plan for TB PPM (47) in 2017 and awarded two new large TB projects in 2018. Both of these projects will address private provider engagement, amongst other priorities, and support the new direction from the NTP as outlined above.

The national social health insurance program, PhilHealth, covered 93.5 million people at the end of 2016, or 91% of the population. It mainly provides inpatient hospital benefits, but since 2003 it has also provided an outpatient TB DOTS package. Accredited DOTS providers can be reimbursed PhP 4000 (US\$ 78) per TB case managed: US\$49 on completion of the intensive phase, and US\$29 on completion of the continuation phase. The amount was based on a 2003 estimate of public sector costs and has not been adjusted since. The USAID Health Policy Development Program (HPDP) estimates that it should now be PhP 15,000 (US\$294). PhilHealth TB DOTS claims payments have doubled in the last three years to US\$ 2.7 million in 2016. About 38 000 intensive phase claims were paid in 2016, corresponding to 11% of total cases notified that year; claims paid for the continuation phase are only about 75% of claims paid for the intensive phase.

Constraints to PhilHealth impact on TB have been well-recognized for years and include: its influence on public facilities is limited by the fact that claims are paid to Local Government Units, which rarely pass them

31 This section draws heavily on the “National Action Plan for Public-Private Mix on Private Sector Participation in TB Care and Prevention, Philippines, 2018–2022”, National TB Program, November 2017

32 PhilCAT website

on directly to facilities or staff; its influence on private facilities is constrained by cumbersome accreditation and claims processes and by the low value of the benefit; patients have no incentive to present their PhilHealth card because drugs and consultations are supposed to be free anyway; only 96 private facilities are accredited for the TB package, and all of them are hospitals; most private hospitals are designated only a referral and not a treatment role for TB; the TB treatment model required under PhilHealth is rigid and demanding for both patient and provider, leading most to opt out; and there is no PhilHealth package for the programmatic management of drug-resistant TB. A 2016 USAID-funded review of TB payment systems made 17 specific recommendations to improve the contribution of PhilHealth to TB prevention and care (48). Many of these recommendations are dependent on larger changes in PhilHealth, including major political decisions about how much of the national budget to channel through PhilHealth, and thus to date there has been little progress on implementing these recommendations.

Social health insurance and TB in Indonesia and Philippines

Until recently, efforts in Indonesia and the Philippines have focused on private specialists and hospitals, rather than primary care providers, and the TB programmes have partnered with specialist-led associations rather than the kinds of NGOs that have been prominent in other countries. Social health insurance schemes are approaching full population coverage in both countries and account for increasing proportions of government health spending, but have thus far made minor contributions to TB prevention and care.

Each of these countries faces distinct challenges to maximizing the impact of social health insurance on TB (Table 12). They need a combination of inpatient and outpatient payment mechanisms that incentivize desired behaviors by both providers and patients, and to offer a compelling value proposition (including ease of accreditation and prompt claims processing) to contract large numbers of private primary care providers, as well as hospitals (36–37).

Table 12. Social health insurance and TB in Indonesia and the Philippines: salient opportunities and challenges³³

Feature	Indonesia (JKN)	Philippines (PhilHealth)
Proportion of population covered (2017)	70%	90%
Share of public sector spending on health	2017: 9% 2020 projected: 40%	2017: 46% 2020: 48%
Proportion of notified TB cases benefitting from SHI	Unknown, current topic of analysis	11%
Performance-based TB outpatient package	No. TB expected to be covered out of capitation. Reform discussions ongoing.	Yes, but payment amount unchanged since 2003 and rigid model of care
Contracts private primary care providers	Yes: 9781 in 2016, 53% of them group practices	Yes for general inpatient care: Private providers are 60% of all accredited providers and 55% of PhilHealth payments. No for TB: only 96 private facilities accredited for DOTS package, all are hospitals (10% of total); no primary care package for private providers
Notification requirement for claims management	No. Currently exploring options for extracting TB data from insurance claims data, particularly the case-based data from hospitals	Yes (although not easy to distinguish number of claims from number of patients)

³³ Sources: Authors' participation in Indonesia Joint Monitoring Mission (2017) and part of PPM Action Planning in Philippines (2017). Indonesia and Philippines Global Fund requests, 2017, Full Funding Landscape annexes.

Republic of Korea

Korea is not a high-burden country (incidence is now 80 per 100 000) but its experience with social health insurance may be of benefit to Indonesia and the Philippines. TB diagnosis typically happens in private primary care clinics but notification is in hospitals, just prior to treatment.

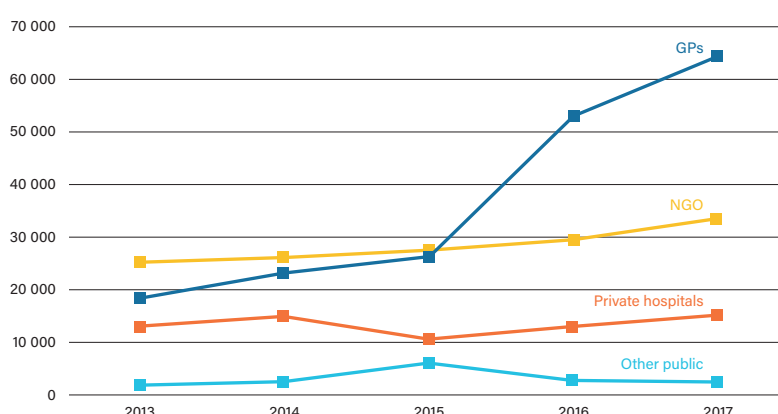
Private sector notifications increased from 18 395 (54% of the total) in 2001 to 28 487 (92% of the total) in 2016 (50). A PPM initiative was introduced in 2009 and expanded nationwide in 2011. It includes strict patient monitoring and contact investigation, backed up by a web-based notification system. Aside from National Health Insurance Scheme reimbursements, a government grant funds 211 PPM nurses, hired by government health centers and assigned to 127 private hospitals and clinics to take care of notification and support to up to 200 patients each. About 82% of the private notifications come from those 127 high-volume facilities. The remaining 18% are managed at other private facilities with lower volumes, with support and oversight by regular TB nurses at the local health centers. The Korean Academy of TB and Lung Health organizes review meetings at various levels.³⁴

Pakistan

Pakistan's NTP has very strong NGO partners to help with engaging private providers. **Mercy Corps** began supporting the NTP in 2001 and has served as Global Fund Principal Recipient since 2007. They now focus on PP engagement in 75 of the country's 145 districts, both directly and in collaboration with six local NGOs. **Greenstar Social Marketing** has been a leader in contraceptive social marketing since 1991 and has been working with private practitioners on TB since 2002, currently in 13 large urban districts. For TB, they currently work with 1,500 general practitioners, 120 labs and 2000 pharmacies. The **Indus Hospital** was founded in 2007 and is now the center of a network of nine facilities, many of them publicly-owned but managed by Indus. They have received Global Fund support since 2010 and have pioneered MDR-TB treatment and pediatric TB care. Indus partners with IRD which has in turn spun off **Interactive Health Solutions (IHS)** to focus on digital technologies and **Community Health Solutions (CHS)** to focus on private primary care. Indus/CHS have pioneered the "social enterprise" model of TB diagnosis and treatment centers (51), expanding to 68 centers in 2017-18.

Almost all the increase in total TB notifications since 2014 has come from PPM, especially from private general practitioners. In 2016, more than 3 300 general practitioners contributed 54 000 notifications, or 15% of the total, and in 2017 their contribution increased to more than 64 000, or 18% of the total. There may be as many as 100 000 private General practitioners in Pakistan, suggesting scope for further increases. The National Strategic Plan 2014-2020 (Vision 2020) suggests that overall PPM notifications should increase to 121 000, or 32% of the total, by 2020, while the 2017 Global Fund Funding Request suggested that 38% of notifications 2018-2020 would come from private providers, including 22% from general practitioners.

FIGURE 6. PPM NOTIFICATIONS IN PAKISTAN, 2013-2017



34 Dr. Kyun Hyun, personal communication

Bangladesh

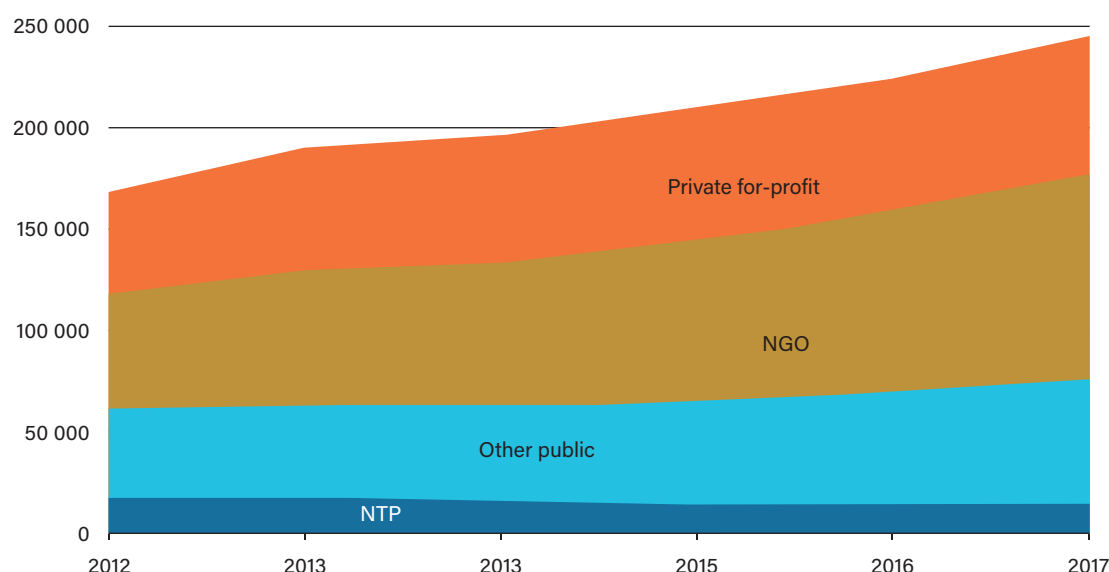
Bangladesh has achieved steady increases in total case notifications, currently at 67% of estimated incidence. Market research data from 2008 suggested that private TB drug sales were about 25% of incidence, but had decreased significantly over the previous 5 years (14). Private providers refer 28% of total case notifications, down from 33% four years ago but an increase of 40% in absolute numbers.

The distinguishing feature here is the strong NGO role in the TB program. Every sub-district of the country is allocated to an NGO partner which deploys Community Health Workers (CHWs) for case finding, referral and treatment support. NGO CHWs refer 38% of all notified cases and are responsible for generating most of the 28% that come from private providers; a further 25% come from non-NTP public providers. Bangladesh has long had an exceptionally strong NGO sector. The main donors are the Global Fund and USAID.

BRAC is the main implementing partner of the NTP, responsible for areas with 93 million people (65% of the total). BRAC's TB work is implemented by nearly 2000 field staff and nearly 16 000 DOT providers supported by 53 000 Shasthya Shebika (CHWs). BRAC has been PR for Global Fund TB grants totaling US\$160 million since 2004. BRAC manages 27 Sub-Recipients (the most significant being Damien Foundation, LEPR and HEED) covering a population of 56 million people with 869 staff. BRAC conducts orientation sessions for Village Doctors, pharmacists and private practitioners, but their focus is on their own CHWs and treatment supporters. More than half of BRAC's case referrals come from their CHWs and 24% from private for-profit providers, whereas in the remaining areas of the country 40% come from for-profit providers and 16% from CHWs (of note, BRAC operated previously only in rural areas, and only more recently started working in peri-urban areas with higher concentrations of private providers).

The Bangladesh National Strategic Plan for TB, 2018–2022, notes the need for engaging private providers but does not focus on this issue. Engaging all providers is listed last of nine issues in notification of missing cases. In 2016–17, with support from USAID, Bangladesh prepared a National Strategic Plan for Public-Private Mix (2016–2020), revised Guidelines on Public-Private Mix for Tuberculosis Prevention and care, and a Public-Private Mix Operational Plan, 2017–2020 (draft); as a result, several million dollars of Global Fund money was reprogrammed to private provider engagement. These documents identify at least five “models” for PPM: hospitals; graduate private providers; non-graduate private providers, the “social enterprise model (SEM)” (which refers to ICDDR's diagnostic centers) and worksite interventions, notably at garment factories. However, targets are modest, in part because of the absence of reliable data on the numbers of private practitioners currently referring or managing cases.

FIGURE 7. BANGLADESH TB CASE NOTIFICATIONS, 2012-2017



Case notifications have increased by around 30% over the last 5 years. Data on aggregate referrals are more complete than most countries, but in the absence of full coverage of a case-based reporting system it is impossible to know how many providers of different types are active. Referrals from private providers have been stable at around 29% of the total, with decreasing contributions from informal providers and increasing contributions from independent graduate providers. Community volunteers generate 41% of all referrals, and public non-NTP providers a further 25%.

FIGURE 8. PRIVATE FOR-PROFIT TB NOTIFICATIONS IN BANGLADESH, 2012-2017

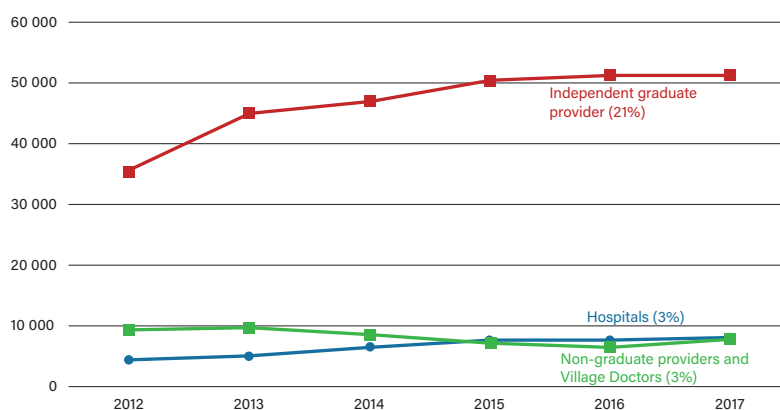


Table 13, below, details the contributions of all kinds of providers (for-profit and non-profit, non-NTP public, formal and informal) to TB notifications over five years. It shows the importance of understanding the role of all kinds of providers, and the feasibility of doing so when the issue is prioritized.

ICDDR,B has received a total of US\$6.2 million over 4 years to create Diagnostic Centers, known as the "Social Enterprise Model (SEM)": US\$3.8 million in two waves of TB REACH, US\$1.33 million from Global Fund and now US\$1 million from the USAID Challenge TB project. They charge Tk/ 300 – 400 (US\$3.75-US\$5.00) for digital chest X-rays and offer Xpert for free. They have established three centers in Dhaka and will soon add six more, four in Dhaka and two in Chittagong. Strengths of this model include convenient opening hours (until 8pm or 10 pm), access to Xpert, high throughput of pulmonary clients, and the excellent reputation of ICDDR,B. BRAC will shortly replicate this model at greater scale, using Global Fund funds. Between ICDDR,B and BRAC, there could soon be 62 non-profit specialist TB diagnostic centers, attracting presumptive TB cases from private providers for digital chest X-ray and Xpert, in urban and peri-urban areas. Even if patient volumes in the new centers are only half of those in the first three centers, they could contribute around 30 000 cases per year, or around 14% of total current notifications nationwide. The vast majority of cases notified to-date have been patients who have already reached the top chest specialists and hospitals in the capital city. Such patients may well benefit from improved adherence and lower costs as a result of this initiative. The key to maximizing their impact in the future will be the ability to generate referrals from private primary care practitioners of patients who are either earlier in their treatment-seeking or who would not otherwise access appropriate care.

The **Social Marketing Company (SMC)** was established in 1972 as a project and affiliate of PSI and has since become a very substantial independent NGO focused on family planning, diarrhea control (ORS), and nutrition. It seems to have the potential to make a considerable contribution to private provider engagement for TB. Its major platforms include the Blue Star network of private Village Doctors and other non-graduate providers (currently 6500 expected to increase to 8000 by 2021), the Private Community Health Provider (PCHP) network of licensed drug sellers (currently 3500 projected to increase to 5000 by 2021) and the "Notun Din (New Day)" network of Community Sales Agents (CSA), currently 2200, deployed across 66 sub-districts of 16 districts and supported by 3–4 full-time community mobilizers per district.

Table 13. Trends in Bangladesh TB case referrals from public, NGO and private sectors, 2012–2017

Provider type	2012	2013	2014	2015	2016	2017	Share	2017/ 2012
	Number	Number	Number	Number	Number	Number		
Private hospitals	4537	5196	6654	7723	7898	8170	3%	1.8
Private graduate providers (GPP)	35 543	44 940	46 957	50 291	51 191	51 217	21%	1.4
Private non-graduate providers	3685	3932	3372	2861	2321	2150	1%	0.6
Village doctor (VD)	5811	5896	5296	4364	4241	5795	2%	1.0
Subtotal private for-profit	49 576	59 964	62 279	65 239	65 651	67 332	28%	1.4
Shastya Shebika (SS)/ NGO	54 484	63 758	66 904	73 366	82 666	92 935	38%	1.7
Community volunteer (CV)	1939	2574	3537	3449	5502	7460	3%	3.8
Subtotal private non-profit	56 423	66 332	70 441	76 815	88 168	100 395	41%	1.8
Government hospital (non-NTP)	32 371	34 585	36 592	40 149	41 450	43 228	18%	1.3
Government facility staff (GFS)	10 830	10 499	9558	9426	9672	11 018	5%	1.0
Community Healthcare Provider (CHCP)	-	-	-	2541	3421	5935	2%	
Subtotal public non-NTP	43 201	45 084	46 150	52 116	54 543	60 181	25%	1.4
TB patient	5394	5123	4842	5101	5430	5697	2%	1.1
Direct to NTP (UHC, CDH, CDC)	13 642	13 518	11 994	10 082	10 129	10 596	4%	0.8
Subtotal direct to NTP facility	19 036	18 641	16 836	15 183	15 559	16 293	7%	0.9
Total notifications	168 236	184 125	190 410	209 353	223 921	244 201	100%	1.5

Source: NTP, BRAC

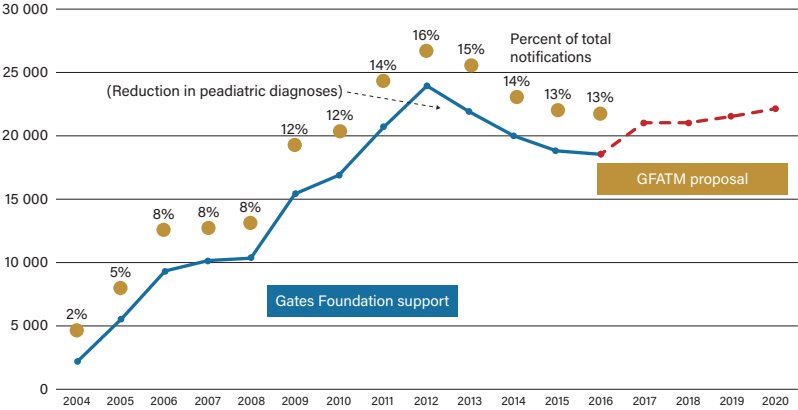
Myanmar

In Myanmar, private providers contribute about 14% of case notifications, or 10% of estimated incidence. These figures have been declining for several years. The National Strategic Plan for TB (2016–2020) calls for relatively modest increases in case detection and in the contribution of private providers, for which the target is 22% of total case notifications in 2020.

Private general practitioners have been engaged at some scale since 2003. The initiative was taken by PSI/Myanmar which integrated TB diagnosis and treatment into the range of services offered within its “Sun Quality Health” (SQH) social franchise network. Of more than 1,200 general practitioners in the SQH

program, more than 800 are actively involved in TB diagnosis and treatment, as well as 2000 community health workers. The program was started with PSI's own funds and has since been expanded and sustained with support from several donors, including the Three Diseases Fund, Global Fund, USAID and the Gates Foundation. The other main partner for the NTP in this work is the Myanmar Medical Association. Although there is likely room for expansion of this work, there is also a sense that the high yielding sites have mostly been engaged. One promising development is the recent use of the SQH network for piloting of a draft insurance package, which could potentially (if supported by government and other stakeholders) provide a more enduring income stream for this network.

FIGURE 9. PSI/MYANMAR TB CASE NOTIFICATIONS



Nigeria

Nigeria has the lowest treatment coverage rate amongst high-burden countries, at just 24% of estimated incidence in 2017. While data on the private healthcare sector in Nigeria are particularly scarce and unreliable, 66%-92% of initial care-seeking for respiratory conditions and fever seems to be with private providers, especially drug shops known as Patent Medical Vendors (PMVs), of which there may be more than 60 000 in the country. The National Strategic Plan for Tuberculosis Control 2015–2020 reflects very low priority on engaging private providers.

Pilot projects have been implemented since 2003. A substantial PPM situation analysis and planning exercise was conducted in 2006–7. PPM Guidelines were adopted in 2006, and PPM Steering Committees have been formed, but less than US\$6 million of the US\$248 million Global Fund TB funds since 2006 have been allocated to PPM, and the results are negligible. In 2017, USAID and WHO supported development of a PPM Action Plan (2018–2020), which reiterated a target of 30% of case notifications coming from private providers. The same target had been set in the 2010–2015 national strategic plan for TB.

The proportion of Private For-Profit facilities (PFPs), FBOs, PMVs, CPs and stand-alone laboratories collaborating with the NTBLCP is still low, as summarized in Table 14. While private (for-profit and non-profit) TB notifications represent 11% of total notifications, they correspond to less than 3% of estimated TB incidence, even though private providers account for more than 60% of primary healthcare.

Table 14. Private health facilities in Nigeria and their contribution to TB case notification

Provider/Facility type	Estimated number in Nigeria	No. engaged by NTBLCP	% engaged	TB cases notified (2017)	% contribution to total case notification (2017)
Faith-based hospitals and clinics (FBO)	406	277	56%	6831	7%
Private for-profit hospitals and clinics (PFP)	13 448	646	5%	4698	5%
Private stand-alone laboratories	2 103	96	5%	n/a	n/a
Community pharmacies (CP)	4 518	103	2%	n/a	n/a
Patent Medical Vendors (PMV)	56 514	640	1%	n/a	n/a
Total				11 529	11%

Source: PPM Action Plan (2018–2020), Table 1. Case notification numbers updated per NTBLCP

Table 15, below, provides further details on the contributions of FBOs and PFPs to TB case notification in 2017. 12% of engaged FBO and 30% of engaged PFPs registered no cases during the year, and a further 6% and 16% (respectively) registered just one case. Among active FBO facilities, the average number of notifications per year is 33, while amongst active PFP the average number per year is just 9. A total of 80% of all notifications come from 61 facilities (26% of the total engaged) while 80% of PFP notifications come from 178 facilities (23% of the total engaged). Taking both categories together, just 194 private providers – those notifying 16 cases per year or more – account for 80% of private notifications. While the concentration of yield amongst a relatively small proportion of providers is not unexpected, the very large number of inactive or minimally-active providers suggests scope for re-engagement and for improving yield.

Table 15. Distribution of TB notifications amongst engaged faith-based and for-profit providers, Nigeria 2017

Description	FBO		PFP		Total	
	Number	%	Number	%	Number	%
Total notifications	6831		4772		11 603	
Number providers engaged	233	100%	782	100%	1015	100%
Number providers active	204	88%	546	70%	750	74%
Notifications per provider:					-	
Zero	29	12%	236	30%	265	26%
One	13	6%	128	16%	141	14%
2-5	46	20%	113	14%	159	16%
6-10	32	14%	88	11%	120	12%
11-20	33	14%	76	10%	109	11%
21-50	40	17%	32	4%	72	7%
51-100	27	12%	13	2%	40	4%
101-300	11	5%	2	0%	13	1%
300+	2	1%		0%	2	0%
Average among engaged	29		6		11	
Average among active	33		9		15	
80% contributed by	61	26%	178	23%	194	19%
Notifications by top 3	553	19%	201	10%	553	11%
	412		170		412	
	299		87		299	

USAID is supporting a new PPM project under SHOPS Plus, designed to establish a model that links different provider types into networks in Lagos and Kano. The latest Global Fund Funding Request (for 2019–2020) includes support for a dedicated implementing organization to focus on engaging private providers, including PMVs, laboratories and clinics and hospitals. It includes a target of increasing FBO notifications 2.5-fold to 16 800 and increasing private for-profit notifications 4.3-fold to 20 200, by 2020.



4 THE WAY FORWARD

Principles for change in mixed health systems³⁵

Public financing and stewardship

The role of the private sector in healthcare is often controversial. The first premise of the current document is that the problems and opportunities of private providers in TB prevention and care can only be effectively addressed by applying public funds to private healthcare. One need be neither “pro”-private healthcare nor “anti”-private healthcare: one can be agnostic as to the ownership of the facilities and staff who deliver the services that will achieve programme goals, and recognize that efficient, effective and equitable care can be and is delivered by a wide range of providers in different settings. But most health economists are not agnostic as to private or public financing: funding for TB prevention and care must increase and most of that funding must be public or philanthropic if goals of equity, efficiency and effectiveness are to be achieved (52).

Theory and experience both rule out the two alternatives in most high-burden settings. For more than 20 years, NTPs and their international supporters have tried to compete with the private sector. The current 64% treatment coverage rate indicates both the potential and the limitations of this approach. It has worked well in many countries but in others – including most of those with the highest burden – it has failed to achieve universal coverage.

The second alternative – improving the quality of privately-financed, privately-delivered TB care – should also be rejected. For reasons well understood and documented by health economists, voluntary and out-of-pocket financing are not conducive to effective, equitable and efficient healthcare (53). The problems of existing privately financed and delivered TB care have been documented (54). In the world’s most advanced health systems, public and compulsory funding sources account for 75%-85% of total health expenditure and voluntary and out-of-pocket contributions are minimized (55). Challenges in applying public funding to private healthcare are daunting: public funding for health is limited in low- and middle-income countries, and systems for strategic purchasing are complex. Nevertheless, especially recognizing the role of path dependence in health systems development (56), our efforts should be designed to facilitate the emergence of the only kind of solution that we know to work at scale in the long term.

The implication of this premise is that efforts to engage private providers in TB should be designed to facilitate and maximize application of public funding to improve private healthcare.

Complex, adaptive, emergent systems

A second set of premises derive from our understanding that public-private mix in TB delivery and financing is an outcome of complex adaptive systems that are local – albeit open to external influences – and

³⁵ The term “mixed health systems” acknowledges the fact that a range of actors (public, private for-profit, faith-based, non-government and community-based) are involved in the provision and financing of health services, and that boundaries between them are sometimes blurred.

determined by political economy. Implications for interventions are many. While the key features of a vision may be articulated, specific mechanisms may take many forms that can't be predicted and the ability to posit milestones along the path to better private provider engagement is limited. Even sequencing may be hard to predict. The process is emergent. It is an example of a complex problem, to be explored rather than managed (56–58). It's not like building a bridge.

Efforts to engage private providers for TB may draw on the latest thinking about market systems (58–59), which itself has roots in longstanding ideas about participatory development. External funders often like to develop an innovation and then catalyze scale up and replication. While there are clearly elements of this paradigm in advancing private provider engagement (which involves innovative business models and enabling technologies), this mental model often leads to attempts to export inappropriate models that may appear to work but lack the foundations required for institutionalization and amplification. Barriers to private provider engagement are profound: it has the characteristics of a “disruptive” innovation that is resisted by the current system (60). As governments move to govern the whole health sector, rather than just the public health sector, one key intervention is the conscious development of new institutional relationships encompassing Ministries of Health, Finance, and Planning, plus national health insurance and regulatory agencies. It is important to remember the need to nurture the capacities of the actors in the system to focus on the problem, innovate and adapt through “deductive tinkering” (61).

Interventions must be multi-faceted, attuned to complex upstream and downstream dependencies, and designed to catalyze local institutional dynamics. It is important to be comfortable with adaptation, exploring pathways towards a vision rather than implementing a deterministic plan. Furthermore, the “right” solution will change over time. What works for donor-funded project may be different from what works for domestic financing, and what works for a low-income setting with many informal providers may be different from what works for a more developed and consolidated health system.

Proximate and distal points of leverage

There are trade-offs between predictable impact on the one hand, and scope and sustainability on the other. Direct donor funding of private provider engagement can lead to gratifying results obtained in a limited health market over a specific period of time. But it is often unclear if the dynamics that are set in motion will be sustained if external funding is withdrawn, because underlying reasons for non-engagement may not have been addressed by facilitating the emergence of different local institutions. There can be little confidence that the experience will inspire similar efforts elsewhere. In short, “amplification” (scale and replication) is elusive.

Alternatively, attention could be focused on underlying factors. Such approaches might: nurture organizations representative of private providers and facilitate forums for dialog between public and private sectors; support the emergence of think tanks and networks of local researchers exploring mixed health systems; sponsor learning visits by future parliamentarians to other countries to shape their attitudes; develop public-private partnership units in ministries of health and support training in strategic purchasing; encourage TB activists and journalists to increase coverage of these issues in local media; and support situation analyses and plans. Such interventions reflect an understanding of the underlying dynamics, but often amount to “pushing on string”. Moreover, there can be a two-way interaction between proximate and distal determinants: interventions in the enabling environment may facilitate the success of engagement projects, but successful engagement projects can also have an impact on the enabling environment by creating a new local reality.

The implication is that interventions must be designed to strike the right balance, deploying resources and influence at multiple points of leverage to create momentum, empower champions, remove obstacles and create enablers, all at the right time and to a sufficient extent (given threshold effects or tipping points).

Vertical vs integrated

Vertical efforts to improve engagement and strategic purchasing for one disease may fail to gain traction or realize economies of scope. Yet TB cannot wait for the development of modern health systems and

could lead development of capacities (such as accreditation, claims management, quality assurance, digital monitoring) that are applicable to other health issues. A number of projects have been successful in developing health system capacities in general, but using TB as a pathfinder and as a tracer for overall performance (which brings some discipline to efforts that may otherwise be somewhat nebulous in their impacts). Efforts to develop technology and engagement platforms should be alert to opportunities for leveraging similar platforms for other conditions without allowing integration to delay progress. TB-specific private provider engagement may set an example and contribute to the development of system capabilities that facilitate broader health system reforms.

Points of intervention for catalyzing systemic change

Theory and evidence from multiple fields, including diffusion of innovations (62), disruptive innovation (27), evolutionary and institutional economics, and market systems reform (59), suggests a number of levers that can be applied to facilitate the emergence of institutional momentum in favor of sustained and systemic private provider engagement. These include:

- Attending to the interactions between physical technologies (such as new diagnostics), social technologies (such as rules and norms) and business models (such as group practices and health insurance), rather than any one of them in isolation(61);
- Identifying and empowering strategically-placed champions, or change agents, that may be both individuals and organizations;
- Recognizing that individuals and organizations are driven by a range of intangible factors (such as professional self-esteem and reputation) as well as more easily-observable or rational calculations of self-interest;
- Ensuring that innovations are “owned” by local actors rather than externally-driven;
- Generating and disseminating compelling data and evidence on both the nature of the problem and efforts to address it, but also actively deploying that evidence through strategic advocacy and communications rather than assuming that it will change behavior;
- Supporting the emergence of positive, inspiring models, through processes of locally-driven exploration, experimentation and evolution (“deductive tinkering”);
- Nurturing or developing systems of accountability, such as global scorecards;
- Realigning incentives by attending to the financial underpinnings of organizational behavior.

Developments likely to improve prospects for private provider engagement

Private provider engagement for TB is likely to be facilitated by the following developments.

Digital revolution The digital revolution is finally reaching TB. The transition from paper-based summary data to digital, case-based systems, coupled sometimes with call centers, reduces one of the major barriers to engagement of private providers: their aversion to record keeping. Such systems enable additional innovations that further facilitate private provider engagement at scale, such as digital payment of incentives and enablers to both patients and providers, adherence monitoring technologies, and digital vouchers for drugs and diagnostics. The continued rapid development of information and communication technologies constitutes a powerful enabler of improved private provider engagement: case notification; recording and reporting; adherence monitoring; payment of incentives and enablers; distance learning; overall performance management. India, Pakistan and others demonstrate the potential. NTPs have tended to be late adopters of these technologies.

UHC/Social health insurance. UHC reforms often include major changes in the way healthcare is financed, as private out-of-pocket expenditures are overtaken by publicly funded or mandatory mechanisms in which the state assumes a strategic purchasing function towards private and public providers. Social health insurance has helped engage private providers in Mexico, Taiwan and Korea. Such programmes in

Indonesia and Philippines are approaching full population coverage but have not yet been used to drive quality of TB care in the private primary sector. If the focus is on public financing with mixed public and private provision, backed up by strong technology-based systems for quality assurance and financial protection in both sectors, some of the ideological tensions around private providers may be minimized. Progress is slow, but dozens of countries are moving in this direction. It may be the only long-term solution to scale and sustainability, although it is far from an automatic solution, as illustrated by the experiences of China, Thailand, Philippines and Indonesia. NTPs are clearly ill-equipped to capitalize on this opportunity, but building links to those who with the relevant skills and experience is a major pathway forwards.

New TB drugs and diagnostics. New diagnostics (e.g., Xpert) and drugs (shorter regimens) help to win over skeptical private providers, create a value proposition for their involvement with national programmes, and make it easier to find and correctly manage private cases. It is a priority to develop a solution for wide-scale use of Xpert (and any other new TB technologies) at affordable prices in the private sector (63).

Broadening of the intermediary base. There has been a slow increase in the number of organizations, individuals and consultants with experience in this area. The last ten years has seen the emergence of a few southern-based alternatives (BRAC, Greenstar, WHP, IRD) to the usual international NGOs and contractors.

Improved data and evidence. While the importance of private providers has been known for decades, recent advances in the evidence base (Patient Pathway Analysis, Standardized Patient studies; market research on drug sales), combined with evidence that “business as usual” is clearly ineffective, has increased momentum for alternative approaches.

Policy change. In India, the new NSP for TB is far more ambitious and strategic in this area than any of its predecessors, and seems likely to be backed by increased financial resources and a supportive new National Health Plan. NSPs and Global Fund proposals in some other countries (Bangladesh, Pakistan, Kenya, Tanzania) also seem to indicate a greater willingness to engage private providers.

Trend towards active investment of international funding for TB Much of the limited progress to-date has been supported by international funders, but the main source of international financial assistance for TB (Global Fund) was designed to be responsive to local government priorities. The new Catalytic Funding mechanism in the Global Fund may be indicative of a trend towards stronger guidance, especially in countries where investments over the last 15 years seem to have had limited success (such as Nigeria).

Urbanization While private providers can be found in both urban and rural areas, urban areas tend to have a greater concentration of private providers, especially those that are better qualified. Public sector TB services often struggle to perform as effectively in urban areas as in rural areas, due to greater population mobility. Africa and Asia are urbanizing faster than the other regions: their urban populations are projected to increase from 40% and 58% currently to 56% and 64%, respectively, by 2050 (64).

Recommendations

Improved private provider engagement is critical to successfully reach the targets of the End TB Strategy and the Sustainable Development Goals. It is time for Ministries of Health in countries with high burdens of TB and pervasive private healthcare sectors, and those who support and fund their TB programmes, to set ambitious goals that align funding of quality-assured TB services with patient care-seeking preferences. External funders and technical agencies must recognize that these are difficult, disruptive reforms that can only be encouraged by simultaneous, locally-based support on several fronts, embracing short-term adaptation towards a medium-term vision.

TB programmes must move from acknowledgement of the issue to genuine prioritization, which will be manifest in strategies, budgets, data collection and accountability systems.

The vision is that private healthcare providers' role and contributions to TB care will be commensurate with their role in overall healthcare delivery. Systems of strategic purchasing will underpin government-led stewardship and regulation to ensure that every presumptive TB patient is promptly evaluated and all TB cases are properly managed, with minimal financial burden on patients, making maximum use of

the latest diagnostics and treatment regimens. National TB programmes will be empowered to assume stewardship functions for all presumptive and confirmed TB patients. Patients, their families, providers and system managers will all be empowered by digital technologies that facilitate case notification, adherence management, social support and accountability. In each country, unique configurations of internationally-connected local institutions will have evolved to drive dynamic processes of innovation, learning, accountability and adaptation, based on timely and insightful data.

For high-burden countries with large private healthcare sectors³⁶, the following recommended actions would reflect appropriate prioritization of private provider engagement:

1. NTPs and their partners should build an understanding about patient preferences, private sector dynamics and the rationale for engaging all providers. They should gather and use new kinds of data, including:
 - the amount and proportion of funds dedicated to engaging private for-profit and non-profit providers, calculated using a consistent approach;
 - the number, location and basic characteristics of all private providers, formal and informal;
 - patterns of care-seeking behavior and its determinants, disaggregated by socio-economic group;
 - patterns of provider behaviors related to TB, and their determinants;
 - referrals, notifications and treatment outcomes by sector (private for-profit, private non-profit and public) and level (primary and secondary/tertiary); and
 - levels, trends and composition of anti-TB drug sales in private markets.
2. NTPs should set high-profile targets for aligning TB referrals and notifications with early patient care-seeking behaviors and ensuring quality outcomes for all TB patients, regardless of where they seek care. In line with recent directions in the monitoring of universal health coverage, targets should capture effective coverage: the number of privately notified and managed TB patients who complete treatment, perhaps expressed as percent of estimated incidence broadly in line with the private share of general healthcare. Other targets should address key aspects of quality of care, financial protection and social support. The level of ambition should reflect the role of the private sector in health services.
3. NTPs and their partners should advocate for political commitment, action and investment in private provider engagement. They must: build high-level commitment to “business unusual” approaches to TB care and prevention; create an environment in which all health care providers are motivated to provide quality-assured TB care in partnership with the National Programme; and increase population-level demand for accredited TB care and associated support services from all providers. It will be important to ensure an appropriate place for private provider engagement in the agendas of national TB commissions and high-level working groups that are being formed as a result of increasing global commitments on TB. Civil society and media can play a critical role in raising awareness of the roles of different healthcare providers, and of new initiatives to partner with them, while community-based organizations can mobilize popular demand for quality TB services.
4. NTPs and major funders of TB prevention and care should substantially increase the allocation of funding to efforts to engage private for-profit providers. This includes establishing the policy basis and skills to channel public money to the engagement function (through either outsourced contracts or dedicated public sector human resources for private engagement). Capitalizing on social health insurance and other health financing reforms towards Universal Health Coverage, Ministries of Health should develop systems of strategic purchasing to link the income of public and private providers to their performance in meeting the TB needs of the populations they serve while protecting patients from financial shocks.
5. NTPs should develop long-term partnerships with organizations that have the capacity to engage private providers at scale on their behalf. They may include NGOs, faith-based networks and professional associations, as well as emerging private chains and hospital networks. In many cases it will be necessary to invest in building the capacity of intermediary organizations so that they can maximize results on behalf of the Program.

³⁶ In particular, India, Indonesia, Philippines, Nigeria, Pakistan, Bangladesh, Tanzania, Kenya, and Myanmar (i.e. more than Setting #5 in the Global Plan to End TB)

6. Ministries of Health should establish a conducive policy environment for engaging private providers. Policies and regulation can help drive engagement with private health providers and other unlinked public sector providers; they can also constrain effective engagement when poorly designed. Some of the health systems and policy foundations of effective private provider engagement for TB include: overall national policy on PPM for TB; policy, regulations, enablers (such as simplified digital systems) and enforcement mechanisms for notification of TB cases; policy, regulations and enforcement mechanisms regarding sales of anti-TB drugs and inappropriate diagnostics; policy and systems for quality assurance of healthcare practitioners and facilities (licensing, certification, registration, accreditation); and policy, systems and specialist staff dedicated to contracting and to purchasing of packages of health services.
7. Recognising that there is no single approach to working with private providers, NTPs and their partners should adapt models of engagement to local context and in the light of data and experience. While successful interventions share common generic features, there is no single implementation model because health markets differ. Even within one health market, models should be adapted continuously over time to maximize performance. Whereas standardization was important in the previous era of TB prevention and care, it would limit the scale and effectiveness of private provider engagement. Implementers need to work with national programmes to adapt and adjust, both between health markets and over time. The focus should be on outputs and outcomes rather than inputs and processes.
8. NTPs should harness the power of digital technologies and accelerate the deployment of case-based digital data systems for notifying TB cases and monitoring their care. Recent experiences have demonstrated that digital technologies can not only facilitate case notification from private providers but also enable additional innovations that further facilitate private provider engagement at scale, such as digital payment of incentives and enablers to both patients and providers, adherence monitoring technologies, distance learning, and digital vouchers for drugs and diagnostics. Such systems require substantial, continuous investment and access to outstanding technical resources.
9. NTPs and intermediary organizations must deliver a range of financial and non-financial incentives and enablers to sustain private provider engagement over time. Private providers should be confident that they can rely on the programme or partner to deliver on their commitments – that drugs will be made available, that diagnostic test results will be informed promptly, and that any payments will be made in full and on time. Trust is earned and develops over months and years of successful collaboration.
10. WHO should lead NTPs and their partners in continuous efforts to monitor and evaluate the contributions of private providers in relation to the specific objectives and targets set by the NTP. This will help inform resource allocation, build accountability, and fine-tune operations and target resources effectively. NTPs, with partners and any intermediary agencies, should be in a position to routinely monitor progress and take action accordingly, using timely and valid data that captures both coverage and quality. Analysis of coverage, yield and sustainability of provider engagement requires access to a reasonably complete and up-to-date facilities register covering all types of healthcare provider, and it implies case-based TB registers that consistently identify providers. Efforts should be made to measure referrals as well as notifications. Analysis of quality of care requires that TB outcomes be tracked by type of provider. WHO should facilitate the development and maintenance of dashboards to facilitate accountability. Proper monitoring and learning in this area is likely to require increased resources, in line with its higher priority.

Sustained and systemic engagement of private providers, on a scale commensurate with their role in health systems, will be based on a fundamental reappraisal of attitudes towards the private sector and the stewardship role of the state, together with an appreciation of processes of change in complex adaptive systems and the disruptive nature of business model innovation.

Annex 1. Private for-profit provider engagement for TB in 7 priority countries, 2017

Issue	India	Indonesia	Nigeria	Philippines	Pakistan	Bangladesh	Myanmar
Private practitioner notifications	383 784 21%	59 549 13%	4968 5%	52375 16%	79 332 22%	67 332 28%	18 149 14%
% of total	x 9.9	x 2.3	-	x 2.6	x 2.5	x 1.1	0.7
% of incidence	50%	11%	n/a	small	80%	87%	~90%
Increase 2013-17 % PPM in primary care							
Main implementing partners for PPM	CHAI/PATH/FIND WHP	Professional associations, district and sub-district Ministry of Health	KNCV SHOPS+	PhilCAT PBSP	Mercy Corps, Greenstar, CHS	BRAC, Damien Foundation, ICDDR,B, MSH, IRD	PSI/Myanmar Myanmar Medical Association
Plan and targets	<p>Top priority, targets (2020):</p> <ul style="list-style-type: none"> - 2 million notifications (56% of total) - 90% DS treatment success - 80% patients DBT financial support - 80% private patients get programme drugs (or reimbursement) 	<ul style="list-style-type: none"> - Low priority (but far more visibility post-plan development) - No targets for private provider case notification 	<ul style="list-style-type: none"> - Low priority - PPM Action Plan 2018-2020 sets modest target - 15 455 private practitioner notifications (2% of total) 	<ul style="list-style-type: none"> - NSP 2017-22: No case targets for private provider engagement - PPM Action Plan 2018-2020: target 136 000 private practitioner notifications (24% of total) 	<ul style="list-style-type: none"> - NSP target 121 000 PP notifications (32% of total) by 2020 	<ul style="list-style-type: none"> - Low priority in NSP, though NTP embraces NGO contributions - PPM Action Plan 2016-2020 targets modest increase to 83 000 PP notifications (36% of total) 	<ul style="list-style-type: none"> - Modest targets - Private notifications to reach 22% of total, or 34 599, in 2020

Issue	India	Indonesia	Nigeria	Philippines	Pakistan	Bangladesh	Myanmar
Social health insurance	Expansion ~20%-40% planned under Pradhan Mantri Jan Arogya Abhiyan (PM-JAY) but no outpatient package	JKN ~90% coverage includes outpatients and contracts 10 000 general practitioners but not yet aligned for TB performance	<5% coverage	PhilHealth 92% coverage includes TB OP package, but many weaknesses and few private practitioners	n/a	Piloting though TB not strongly involved	Piloting a possible scheme with SQH network, including TB
IT	All struggle to shift from paper summary reports to electronic, case-based notification. Various systems and apps have been tried and are in different stages of testing and scale up. All are aware that it is a priority.						
Opportunities	<ul style="list-style-type: none"> GOI commitment to strategic purchasing and digital inclusion Increased budget of US\$46 million Global Fund grant components 	<ul style="list-style-type: none"> Strength and continued expansion of JKN Commitment of NTP (and catalytic funding) to district PPM 	<ul style="list-style-type: none"> Underutilized social marketing organization (SFH) 	<ul style="list-style-type: none"> Commitment to expand and improve PhilHealth 	<ul style="list-style-type: none"> NGO clinic (“social enterprise”) model Strong partners US\$37 million Global Fund grant components 	<ul style="list-style-type: none"> Strong partners Underutilized social marketing organization (Social Marketing Company) 	<ul style="list-style-type: none"> Engage pharmacies Strengthen community-based case finding Potential for insurance-based financing
Challenges (in addition to digital systems)	<ul style="list-style-type: none"> Improve treatment outcomes amongst private notified cases Develop contracting, purchasing systems that use GOI funds 	<ul style="list-style-type: none"> Prioritize private primary care providers Develop effective partners Revise JKN payments for TB Integrate JKN and TB data 	<ul style="list-style-type: none"> Develop mission-driven partners capable of engaging private practitioners at scale Prioritize budgets for TB and for PPM 	<ul style="list-style-type: none"> Understand and engage with private primary care sector Expand PhilHealth primary care coverage Attract more secondary care providers to an improved PhilHealth TB package 	<ul style="list-style-type: none"> Engage informal private providers and pharmacies 	<ul style="list-style-type: none"> Engage more informal private providers, drug sellers Start to develop models for sustainable financing for TB 	<ul style="list-style-type: none"> Slight decline in private notifications in recent years Transition to public purchasing Nascent social health insurance

Annex 2. Potential Performance Indicators for Private Provider Engagement

Category	No	Indicator*	Data needs	Data source	Rational/use
Private notifications	1	Private notifications as % of estimated incidence	No. of private notifications; estimated incident cases	TB surveillance database; WHO	Assess progress of private provider engagement
	2	Private notifications as % of total notifications	No. of private notifications; total notifications	TB surveillance database	Assess progress of private provider engagement
	3	% of private providers actively engaged	No. of private providers notifying TB cases during period; total number of private providers	TB surveillance database; mapping or other estimates of private providers	Indicates effective coverage of private provider engagement
	4	TB drug sales to privately notified cases in programme as % of total private TB drug sales	Drug sales to privately notified cases in programme can use no. of privately notified cases as proxy; total TB drug sales	Drug sale data to privately notified cases in programme; IMS drug sale data	Indicates effective coverage of programme to engage private providers
Quality of private provider services	5	% of privately notified pulmonary cases with laboratory-confirmed TB	Diagnostic information on each privately notified case	TB surveillance database	Assess quality of diagnosis for private patients
	6	% of privately notified pulmonary cases successfully treated	Treatment outcome on each privately notified case	TB surveillance database	Assess quality of treatment for private patients
Private notifications	7	% of privately notified pulmonary cases with confirmed result on rifampicin sensitivity	Diagnostic information on each privately notified case	TB surveillance database	Assess quality of diagnosis for private patients
	8	% of privately notified pulmonary cases with sputum testing for TB	Diagnostic information on each privately notified case	TB surveillance database	Assess quality of diagnosis for private patients
	9	% of TB patients diagnosed by private providers that are notified	TB patients diagnosed by private providers based on inventory study; number of private notifications	Inventory studies of private providers	Proxy for effectiveness of private provider engagement
	10	% of private providers who correctly manage presumptive TB cases	Actual private provider behavior (weighted by estimate of patient workload)	Standardized patient (SP) survey Prescription audits and provider-level trends in diagnostics use	Capture actual quality of care by private providers



Category	No	Indicator*	Data needs	Data source	Rational/use
Alignment with patient care-seeking	11	Ratio of private provider notifications as % of estimated incidence to % of private provider share of initial care-seeking	Private notifications as a share of estimated incident cases; estimates of private provider share of initial care-seeking	TB surveillance database and WHO; DHS, TB prevalence or other surveys	Captures degree of alignment between patient care-seeking preference and availability of private provider engagement
	12	Average number of care-seeking visits prior to initiation of TB treatment	Patient recall of care-seeking pathway	Sample interview of notified patients	Proxy measure of diagnostic and treatment delays
Funding for private provider engagement	13	% of TB budget dedicated to private provider engagement	TB budget information classified by ultimate service channel	Annual analysis of budgets	Allocation of funds is the most important indicator of priority
	14	% of TB expenditures used for private provider engagement	TB expenditure information classified by ultimate service channel	Annual analysis of expenditures	Expenditure indicates both funding priorities and ability to use funds
	15	% of privately notified cases experiencing catastrophic health expenses for TB	Patient recall of medical expenses along care-seeking pathway; information on household income	Sample interview of notified patients; see WHO patient cost methodology	Captures information of health shock for private patients
	16	% of privately notified TB cases for which >90% of direct medical expenses for TB are covered by public or mandatory benefits package	Patient recall of medical expenses along care-seeking pathway; information on medical expenses covered by public or mandatory benefits package	Sample interview of notified patients	Indicates coverage of social health insurance or similar strategic purchasing schemes

* Priority indicators are in bold

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