PUBLIC–PRIVATE MIX FOR TB PREVENTION AND CARE

A ROADMAP

PATH · Stop TB Partnership · Centre international de TB McGill / McGill International TB Centre · USAID FROM THE AMERICAN PEOPLE · The Global Fund · World Health Organization

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Public–private mix for TB prevention and care: a roadmap

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The document reflects feedback from PPM core group members including Pedro G Suarez, as well as from the members of the WHO Strategic and Technical Advisory Group at its June 2018 meeting in New York.

KEY MESSAGES

- As countries move towards achieving universal health coverage, efforts to engage all care providers have gained more significance.
- Over a third of people estimated to have developed TB in 2017 were not detected and notified by national TB programmes (NTPs). This gap is more pronounced in countries with large private sectors, especially those with a high burden of TB. Seven countries with large private sectors account for 63% of the world's 3.6 million missing cases: in these countries, public–private mix (PPM) is the primary strategy for finding them.
- Health care providers outside the scope of NTPs, including the private and informal sector, are often the first point of care for TB patients. However, these providers are not fully engaged despite evidence from country experiences and projects that demonstrate increased detection and good treatment outcomes through PPM approaches.
- Unless all relevant health care providers are effectively engaged in the TB response, it will not be possible to achieve global or national End TB goals.
- While constraints and challenges are not to be underestimated, there is ample evidence that all kinds of providers can be effectively engaged to offer high quality TB services.
- The investment case for initiatives to engage all health care providers is also compelling.
- 10 key actions are required to scale up the engagement of all care providers towards universal access to care. NTPs and their partners, in collaboration with the private sector, must:

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 nonfinancial incentives and enablers

Partner with and build the capacity of intermediaries and key stakeholders

Monitor progress and build accountability

INTRODUCTION

The importance of engaging private providers to reach all people with TB, with quality care

While there has been significant progress in the fight against TB with 54 million lives saved since 2000, the burden of suffering and death due to TB remains immense. In 2017, 10 million people fell ill with TB and 1.6 million people lost their lives to this leading infectious killer.

Although countries have committed themselves to ending the global TB epidemic by 2030 as part of the Sustainable Development Goals and the End TB Strategy, actions and investments fall far short. One of the important challenges in the End TB response is ensuring universal access to quality TB services, which is a key component of End TB efforts worldwide as well as the overall universal health coverage agenda.

In 2017, 3.6 million of the estimated 10 million people with TB worldwide were "missed" by national TB programmes (NTPs) *(1)*. Two thirds of them are thought to access TB treatment of questionable quality from public and private providers who are not engaged by the NTP *(1)*. The quality of care provided in these settings is often not known or substandard. Closing these gaps and ensuring patient-centred care imply that quality-assured and affordable TB services must be made available wherever people choose to seek care.

Failure to engage the full range of health care providers for TB has the following serious consequences.

- Increased transmission as a result of delayed diagnosis and treatment.
- Excess mortality and morbidity as a result of inappropriate treatment.
- Increased drug resistance as a result of incomplete treatment.
- Catastrophic costs to patients and their families as a result of out-of-pocket expenditures for private care.
- Incomplete monitoring and evaluation of TB services.

Engaging private and other care providers can also contribute to easing the heavy burden on NTPs, which face multiple competing priorities, such as drug resistance, changes in diagnostic and treatment protocols and roll out of new tools, along with all the operational demands of large-scale service delivery.

For these reasons, WHO policies and global and national TB strategies have long acknowledged the need to engage all providers, including in the private sector *(2–4)*. Reports from countries and several project evaluations have shown that engaging all care providers through public–private mix (PPM) approaches could help increase case detection up to four-fold and assure good treatment outcomes. Yet, a large number of private health providers and some public sector providers, who are often the first point of care for patients, remain unengaged.

Table 1 provides illustrative examples of the range of health care providers that may need to be engaged by TB programmes, depending on the context. They include private for-profit providers and facilities, non-profit organizations and facilities (including the many faith-based providers) and public sector providers that may not come under the health ministry or be engaged by the NTP. They may comprise informal or unqualified providers, as well as the full range of qualified professionals, and include laboratories and pharmacies as well as clinicians. Clearly, they are not all equally important in all contexts, and their roles in TB care and prevention vary according to qualifications, infrastructure and national regulations. (See Resources section for references to guidelines and toolkits that provide further details on the roles of different providers and models of engagement.)

Table 1: Illustrative examples of non-NTP providers

Private for-profit	Private non-profit	Public non-NTP
▪ 29 medical colleges in Bangladesh ▪ 97 000 general practitioners in Pakistan ▪ 40 000 traditional healers in Zambia ▪ 2103 private stand-alone laboratories in Nigeria ▪ 8200 pharmacies in Kenya ▪ 60 000 proprietary patent medical vendors in Nigeria ▪ 10 000 accredited drug shops in Tanzania ▪ Worksite clinics in South African mines	▪ 450 facilities affiliated with Muhammadiyah in Indonesia ▪ 4400 hospitals and health centres affiliated with Christian Health Association of Nigeria ▪ 53 000 BRAC Shasthya Shebika (community health workers) in Bangladesh ▪ Facilities of the Pakistan Anti-TB Association, Gulab Devi Chest Hospital in Lahore and Indus Hospital in Karachi in Pakistan	▪ 27 medical colleges and hospitals in Bangladesh ▪ 121 hospitals and 386 health centres operated by Indian Railways for its staff ▪ 380 facilities of the contributory public social health insurance system (EsSalud) in Peru ▪ 244 prisons in Nigeria ▪ 204 military and para-military facilities in Nigeria

Progress, but not at scale or fast enough

Many countries have made some progress in engaging non-NTP public providers and major non-profit facilities, especially those managed by faith-based organizations that have historically had close relationships with the health ministry.

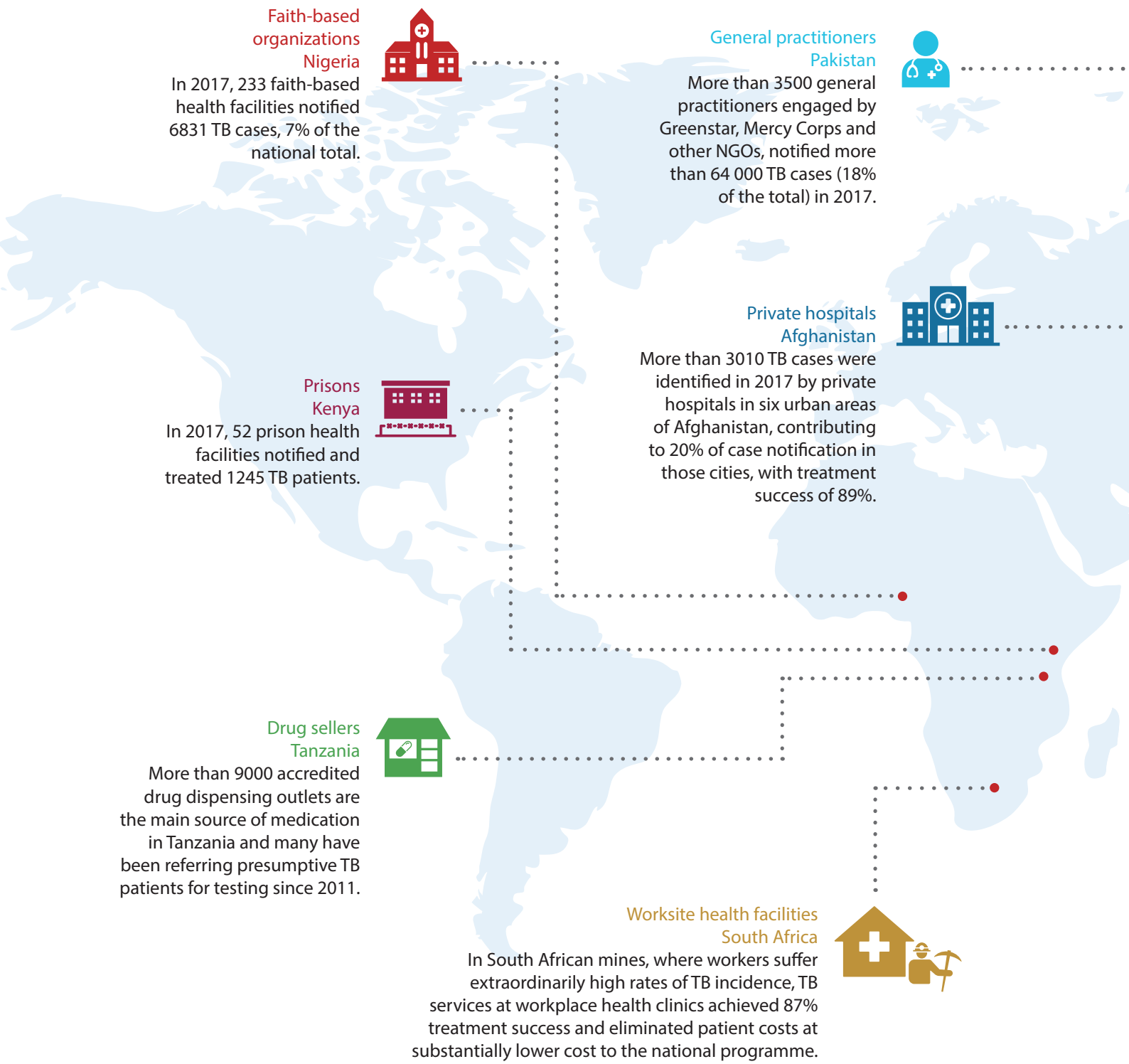
Gaps in engagement are typically much greater when it comes to for-profit private providers, who can be far more numerous. Dominant and largely-unregulated private health sectors are characteristic of seven of the top 10 countries ranked by TB incidence: India, Indonesia, Philippines, Pakistan, Nigeria, Bangladesh and Myanmar.[1]

In some countries, especially those with long-established networks of faith-based clinics and hospitals, the non-profit private sector plays an important part in health systems. NTPs have often had more success in engaging this sector than the for-profit sector, but significant gaps remain.

In some countries, a wide range of public-sector health care providers may not participate effectively in the NTP. These providers include public hospitals and medical colleges, social security facilities, and those managed by military and police forces, prisons and parastatal organizations. A recent inventory study in Indonesia found that as many as 65% of TB patients in public and private hospitals and 15% of those in primary health centres are not reported to the NTP *(1)*.

1 The exceptions being China, Democratic Republic of the Congo and South Africa.

ALL KINDS OF HEALTH CARE PROVIDERS HAVE ROLES TO PLAY IN ASSURING UNIVERSAL ACCESS TO TB CARE



Faith-based organizations
Nigeria
In 2017, 233 faith-based health facilities notified 6831 TB cases, 7% of the national total.

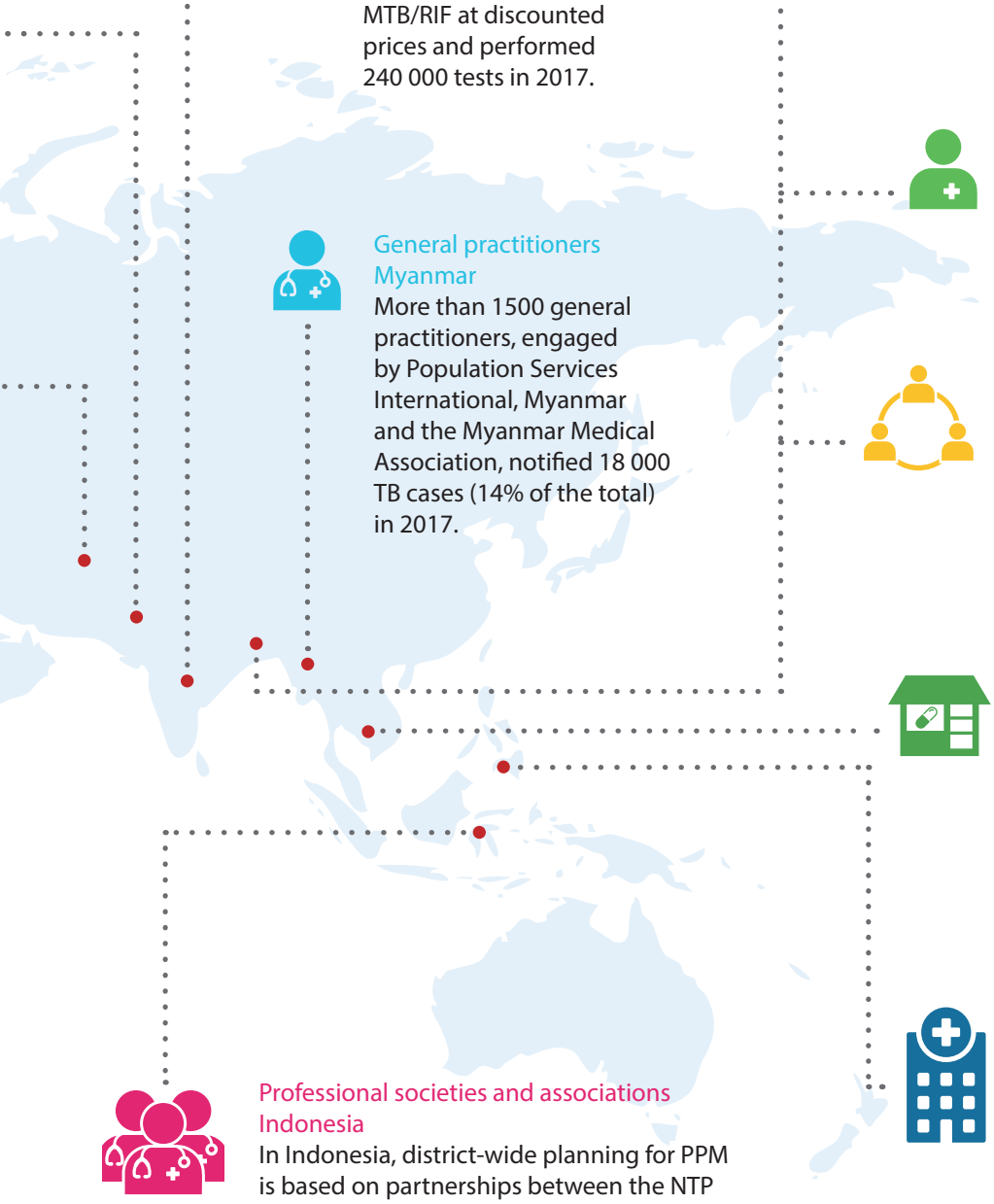
General practitioners
Pakistan
More than 3500 general practitioners engaged by Greenstar, Mercy Corps and other NGOs, notified more than 64 000 TB cases (18% of the total) in 2017.

Private hospitals
Afghanistan
More than 3010 TB cases were identified in 2017 by private hospitals in six urban areas of Afghanistan, contributing to 20% of case notification in those cities, with treatment success of 89%.

Prisons
Kenya
In 2017, 52 prison health facilities notified and treated 1245 TB patients.

Drug sellers
Tanzania
More than 9000 accredited drug dispensing outlets are the main source of medication in Tanzania and many have been referring presumptive TB patients for testing since 2011.

Worksite health facilities
South Africa
In South African mines, where workers suffer extraordinarily high rates of TB incidence, TB services at workplace health clinics achieved 87% treatment success and eliminated patient costs at substantially lower cost to the national programme.



Laboratories
India
210 pathology laboratories with more than 6000 collection centres offered Xpert MTB/RIF at discounted prices and performed 240 000 tests in 2017.

General practitioners
Myanmar
More than 1500 general practitioners, engaged by Population Services International, Myanmar and the Myanmar Medical Association, notified 18 000 TB cases (14% of the total) in 2017.

Professional societies and associations
Indonesia
In Indonesia, district-wide planning for PPM is based on partnerships between the NTP and the Indonesian Medical Association, the pulmonologists association, the internists association, the pharmacists association and the laboratory association. This approach resulted in a near doubling of national private notifications from 2015 to 2017.

Nongovernmental organizations (NGOs)
Bangladesh
More than 40 NGOs support the NTP, covering the entire country and performing a full range of functions, including operation of diagnostic and treatment centres, community-level screening and referral, patient support, training, registration and reporting and awareness campaigns.

Informal providers
Bangladesh
Village doctors and other nongraduate medical providers notified 8000 cases in 2017.

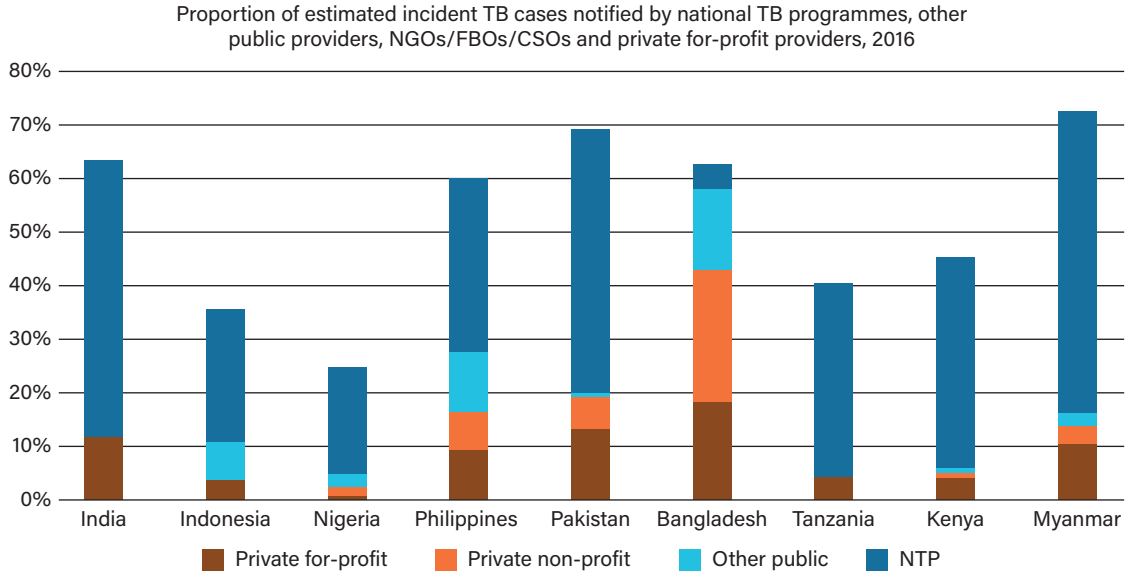
Community health workers
Bangladesh
In 2017, 53 000 BRAC Shasthya Shebika and other community health workers referred or notified more than 100 000 TB patients, 41% of the total.

Pharmacies
Cambodia
1200 pharmacies in Cambodia have been referring presumptive TB patients for testing since 2005, contributing about 9% to national case finding.

Hospitals
Philippines
Engagement with more than 1000 hospitals since 2002 has generated lessons that are being applied in the Enhanced Hospital Engagement Model 2017–2022; simplified reporting and recording, improved access to Xpert, revised certification standards, and revisions to the PhilHealth Outpatient TB Benefits Package, are designed to double case finding by 2022.

Figure 1 shows the contribution of four main categories of providers (public providers under the NTP, other public providers, private for-profit, and private faith-based or NGO) in TB case notification in selected countries with multisectoral health systems.

Figure 1: Role of various sectors in TB case notification, selected countries, 2016



NGOs: nongovernmental organization

FBO: faith-based organization

CSO: civil society organization

PPM is not equally important in all high-burden countries. Based on the number of "missing people with TB" and the importance of private and other sectors in the health system, 15 countries may be considered highest priority for scaling up effective PPM (Table 2). This list was derived by analysing the top 17 countries for "missing cases" in 2017, and then removing countries where the private sector is less prominent in primary health care provision and/or health financing (Mozambique and Democratic People's Republic of Korea) but retaining China, where the business model of publicly-owned facilities is similar to that of private facilities elsewhere.

There have been scores of pilot PPM projects, most of which showed promising results, but few have been sustained at scale. In 2011, a systematic assessment of PPM for TB prevention and care identified 45 studies documenting 22 projects in 12 countries. The authors concluded that "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." *(5).* A systematic review of literature published through May 2014 included 78 studies of 48 programmes in 16 countries *(6)*.

Private for-profit engagement should be prioritized as one of the core interventions in national TB strategic plans and TB response in these countries. Closing gaps and reaching all people with care will entail engaging closely with the private sector to reach those affected early with care *(7).*

Some of the major lessons learned from all these analyses are listed below *(5,7 –10)*.

- Experience with a very wide range of formal and informal providers and facilities in widely varying health systems contexts suggests that it is possible to engage all providers in productive and effective partnerships that enhance TB prevention and care. Constraints are many, and mostly common across contexts, but they can all be overcome with sufficient commitment and investment.

Table 2: Priority countries for engaging all providers

Countries ranked by number of "missing people with TB", data for 2017

Country	Population (thousands)	TB incidence rate	TB incidence (thousands)	MDR incidence (thousands)	Notifications, new and relapse (thousands)	Treatment coverage rate	Missing cases (thousands)	% global missing cases	Private share of primary care	Private share of health expenditure (thousands)
India	1340	204	2740	135	1787	65%	953	26.5%	74%	74%
Indonesia	264	319	842	23	442	53%	400	11.1%	74%	66%
Nigeria	190	219	418	24	102	24%	316	8.8%	67%	74%
Philippines	105	554	581	27	317	55%	264	7.3%	70%	68%
Pakistan	197	267	525	27	359	68%	166	4.6%	85%	69%
Bangladesh	165	221	364	8	243	67%	121	3.4%	84%	74%
China	1410	63	889	73	773	87%	116	3.2%	n/a[a]	40%
Democratic Republic of Congo	81	322	262	8	150	57%	112	3.1%	43%	44%
South Africa	57	567	322	14	220	68%	102	2.8%	n/a	44%
Tanzania	57	269	154	2	68	44%	86	2.4%	62%	28%
Kenya	50	319	158	3	84	53%	74	2.1%	42%	48%
Myanmar	53	358	191	14	130	68%	61	1.7%	78%	74%
Ethiopia	105	164	172	6	117	68%	55	1.5%	24%	58%
Angola	50	319	158	3	84	53%	74	1.5%	16%	50%
Thailand	69	156	108	2	36	58%	26	0.7%	40%	24%

Criteria: Highest number "missing" TB cases, high private share of primary care and/or total health expenditure.

Exclusions: Among countries with the highest numbers of "missing" TB cases, Mozambique and Democratic People's Republic of Korea are excluded.

Sources: WHO 2018 Global TB report (1); recent Demographic and Health Surveys and other surveys; WHO Global Health Expenditures Database (http://apps.who.int/nha/database, accessed 11 October 2018).

[a] Hospitals in China are in public ownership but self-financed like private facilities elsewhere.

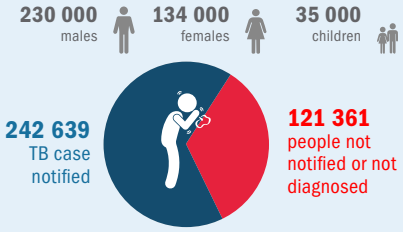
THE BIG SEVEN

A 2018 landscape analysis focused on the role of private for-profit providers. It found that in seven of the highest burden countries (India, Indonesia, Philippines, Pakistan, Nigeria, Bangladesh and Myanmar),[2] which account for 57% of the global TB incidence and 63% of missing cases:

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

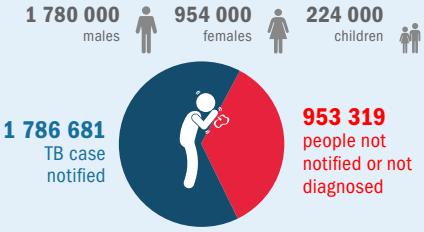
BANGLADESH

364 000 FELL ILL WITH TB



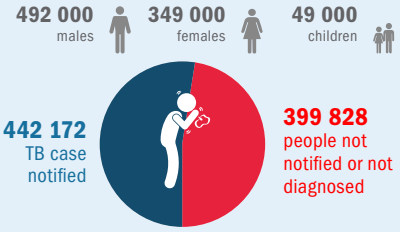
INDIA

2 740 000 FELL ILL WITH TB



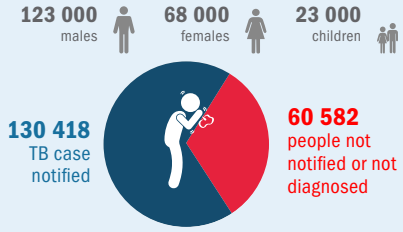
INDONESIA

842 000 FELL ILL WITH TB



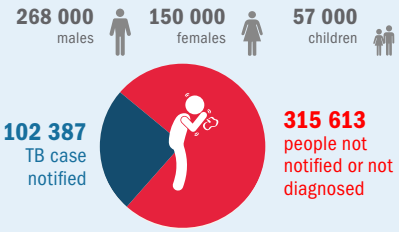
MYANMAR

191 000 FELL ILL WITH TB



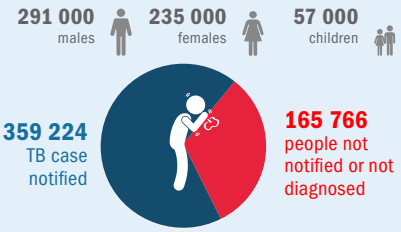
NIGERIA

418 000 FELL ILL WITH TB



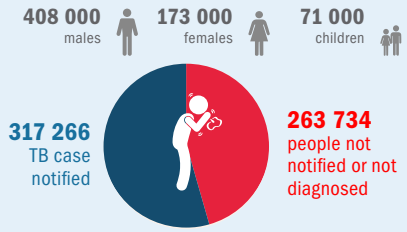
PAKISTAN

525 000 FELL ILL WITH TB



PHILIPPINES

581 000 FELL ILL WITH TB



- Attitudes are critical: policy documents, strategies, action plans, "schemes" and guidelines are all helpful, but intangible human elements, such as attitude and commitment, are essential.
- Adjustments will have to be made on both the public and private side to ensure harmonious collaboration. For example, forms designed for NTP facilities may have to be adjusted for use in other contexts. Diagnosis and treatment protocols may include many "nonnegotiables", but training activities can be adjusted to meet the needs and interests of different providers.

2 The exceptions being China, Democratic Republic of the Congo and South Africa.

- NGOs and professional associations can often play a critical role in organizing nonstate providers and serving as an intermediary between them and the NTP.
- When engaging private providers it is important to understand their needs (which typically includes retaining patients by offering them prompt relief) and ensure respect for their standing in the community, take into account their time constraints when organizing training plans; minimize bureaucracy; and honour commitments.
- Successful PPM initiatives have embraced a variety of operational models and innovations and have been able to adapt them over time on the basis of experience. Standardization has been essential to scaling up interventions in the public sector, but adaptation, innovation and flexibility may be key to the success of PPM.

Challenges and emerging opportunities

Challenges: NTPs are overburdened and often struggle to influence private health care providers, medical colleges, tertiary institutions, social security systems, parastatal organizations, and staff in military, police and prison facilities. There may be mistrust between public and private health care sectors, which are often highly fragmented and heterogenous. Systems for regulation, accreditation and strategic purchasing are often weak. Especially for private for-profit providers in Africa, there are few successful models of engagement at scale, few experts and champions in this field, and few strong organizations with depth of experience and capability.

Successful engagement of all health care providers, on a scale commensurate with their role in the care-seeking behaviours of the population, requires a substantial change in mindset and priorities. In order to assume responsibility for all TB patients, rather than only those who present to NTP facilities, programmes will have to expand their stewardship role to cover the private health sector and develop tools and skills required for influencing and partnering with others. Intermediary agencies could be involved to take on part of the stewardship role to engage diverse private and public health providers. Other ministries (notably the ministries of labour, social welfare, mining), should also be engaged to ensure access to care in the workplace and for vulnerable populations.

Emerging opportunities: In the context of renewed high-level attention towards closing the gaps in care – as indicated by the 2018 UN High Level Meeting Declaration on TB, the 2017 Moscow Declaration to End TB, the Global Fund to Fight, AIDS, Tuberculosis and Malaria's (Global Fund) Strategic Initiative[3] on finding the missing people with TB, and the newly launched Joint Initiative "Find.Treat.All.#EndTB" of WHO, the Stop TB Partnership and the Global Fund – several developments (as listed below) could facilitate a major increase in private provider engagement for TB in the coming years.

- Increased commitments at the highest level accelerate the End TB response and close gaps in care, including through engagement of the private sector.
- Positive and promising examples inspire other countries to be more ambitious.
- The digital revolution is finally reaching TB: new digital technologies facilitate the engagement of all providers by transitioning from paper-based data to digital, case-based registration systems. Such systems enable additional innovations that further facilitate 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 radiography, Xpert and shorter MDR-TB regimens, has increased the value of engaging with the NTP for independent providers.
- Social health insurance schemes in some countries are approaching full population coverage and will provide an opportunity to drive access to quality TB care among all providers.

3 The Strategic Initiative covers 13 countries including: Bangladesh, Democratic Republic of the Congo, Ethiopia, India, Indonesia, Kenya, Mozambique, Myanmar, Nigeria, Philippines, South Africa, Tanzania and Ukraine.

Investing in PPM is good value for money

Interventions to combat TB have been recognized as highly cost effective. *The Economist* ranked the efforts to combat TB first among health development initiatives showed a return of US$ 43 for every dollar invested *(11)*. Reaching all people with TB and delivering quality care is therefore expected to be highly cost effective.

While considerable attention has rightly been placed on the need to find missing TB cases, the economic benefits from engaging all providers extend also to the larger number of patients who start their care-seeking pathway outside the NTP, even if they are subsequently notified by the NTP. Given that private health providers are the first point of care in many settings, closing gaps through their engagement could potentially yield good returns through early diagnosis and care.

Costs and benefits of engaging non-NTP providers may be considered from the perspective of patients, programmes, providers and society as a whole. The costs and benefits of PPM strategies may be compared with those of standard NTP provision or with a counterfactual situation in which TB patients go untreated or access services from providers that are not in partnership with the NTP.

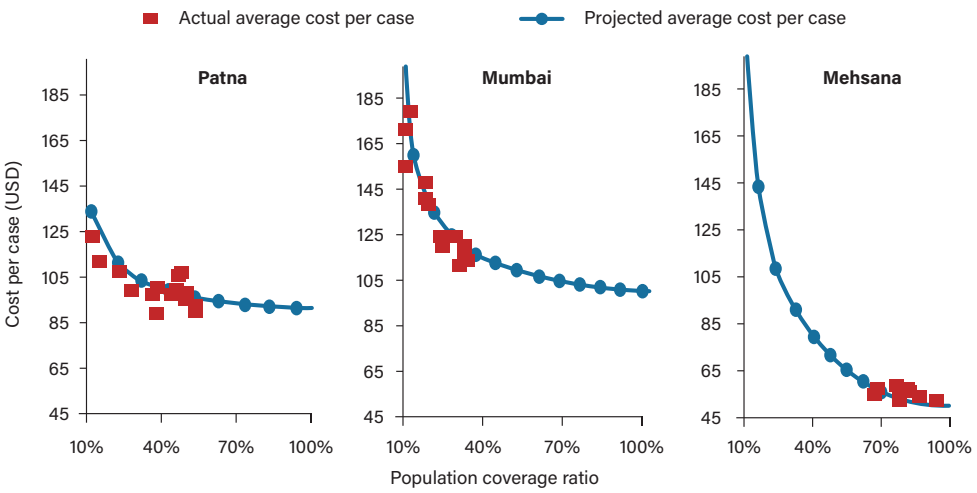
From the patient perspective: Governments have committed to eliminating catastrophic costs for families affected by TB, but recent cost studies suggest that this will be a major challenge. Typically, the most significant costs are those associated with the time taken to avail services, including loss of employment *(12)*. PPM models save money for TB patients who would otherwise access services from unengaged providers by facilitating referral to free NTP services or enabling privately-managed patients to benefit from programme-procured drugs, diagnostics and social support. PPM models can also save money for patients who would otherwise access NTP services if any increase in direct medical costs is offset by savings in time, and potentially lost employment, as a result of easier access and more convenient hours of operation. A study in South Africa found that costs to the patients in an NGO model were less than half of those they incurred in the purely public model, and were eliminated altogether in a mining worksite model *(13)*. A study in India found that total patient costs under PPM were 23% lower than in standard private care *(14)*.

From the programme perspective: Many TB programmes are struggling to achieve universal coverage due to constrained budgets and need to ensure that scarce resources are allocated as cost-effectively as possible. Studies suggest that programme costs per patient successfully treated under PPM models may be substantially lower than for standard NTP services as a result of leveraging time and facilities of non-NTP providers *(13, 15–17).* Over the long term, averted costs of managing complicated and drug-resistant cases resulting from incomplete treatment in the private sector can result in PPM being cost-saving from a programme perspective *(18)*.

A cost–benefit analysis of potential investments for one state of India ranked the engagement of private providers for TB as first among 79 potential investments in health, education, agriculture and nutrition. It concluded that engaging private providers for TB would generate benefits 156 times greater than programme costs by 2049, and that if patient costs were included the benefit–cost ratio increases to 179 *(18)*.

As with most interventions, the average cost of the PPM approach may fall as it goes from being a pilot or demonstration project to scale (Figure 2) *(19)*.

Figure 2: Relationship between average cost per case notified and scale of private provider engagement initiatives in India *(19)*



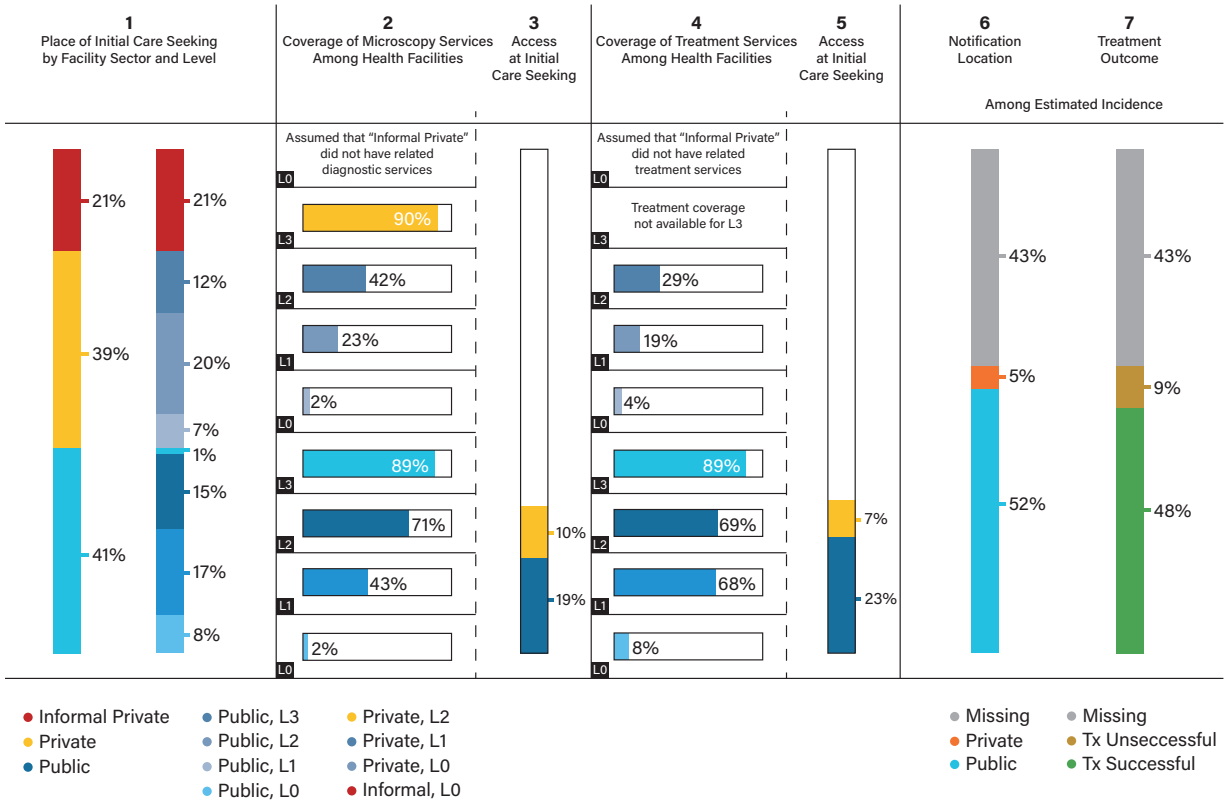
ROADMAP TOWARDS SCALING UP THE ENGAGEMENT OF ALL CARE PROVIDERS IN TB PREVENTION AND CARE

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

Building a strong evidence base will be critical to transform mindsets as well as secure high-level commitment and investment. The information will also enable programmes to prioritize the types of providers for engagement. Countries and their partners should gather and use new kinds of data, including those listed below.

- Patterns of care-seeking behaviour and its determinants, disaggregated by socioeconomic group, including using population-based data from Demographic and Health Surveys, TB prevalence surveys, Living Standards Measurement Surveys, and others *(20,21)*.
- Patient Pathway Analyses *(22)* (Figure 3).

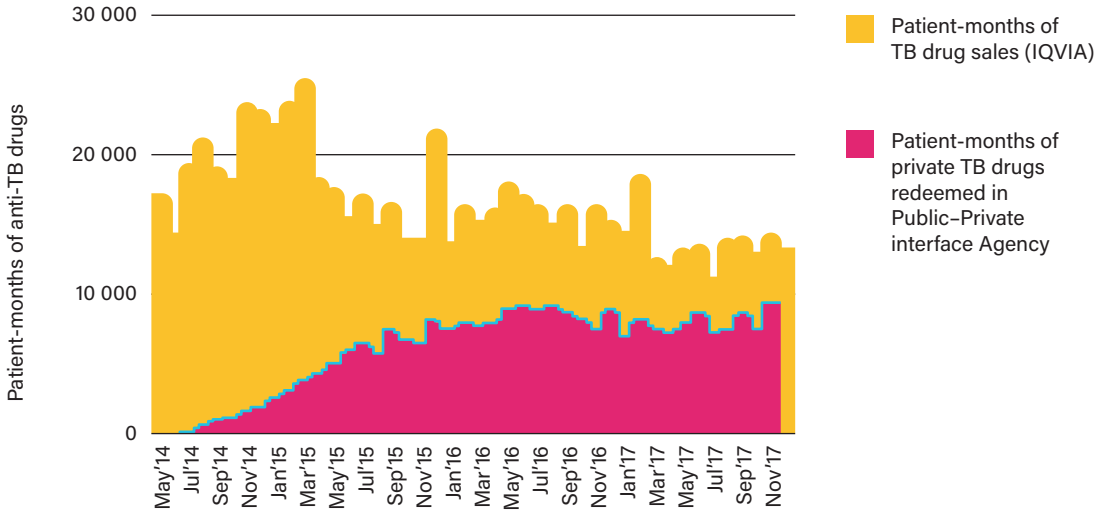
Figure 3: Patient pathway analysis across 13 high-burden countries shows the importance of the private sector in initial care-seeking and the misalignment between TB service availability and population care-seeking behaviours[4] *(28)*



4 Combined 13-country patient pathway analysis includes Bangladesh, China, Democratic Republic of the Congo, Ethiopia, India, Indonesia, Kenya, Mozambique, Myanmar, Nigeria, Pakistan, Philippines, South Africa. In the formal public and private sectors, L0 refers to community-level care and pharmacies; L1 refers to clinics and primary health care centres; L2 refers to lower-level hospitals; L3 refers to referral hospitals. In the informal sector, L0 refers to traditional healers and drug sellers.

- Numbers of TB patients managed by different types of public and private providers, and extent of underreporting in TB registries (inventory studies) *(2)*.
- The number, location and basic characteristics of all private providers, formal and informal, including a supply-side analysis of their current TB diagnostic and treatment capacity.
- Referrals, notifications and treatment outcomes by sector (private for-profit, private non-profit and public) and level (primary and secondary/tertiary).
- Patterns of provider behaviours related to TB, and their determinants, including standardized patient studies *(24,25)* and provider interviews to understand the qualitative reasons behind referral and clinical practices.
- Levels, trends and composition of anti-TB drug sales in private markets (Figure 4) *(26,27).*

Figure 4: Use of data on private TB drug sales to monitor coverage of private provider engagement



2. Set appropriately ambitious PPM targets

Countries should, jointly with private provider representatives and other stakeholders, develop and set high-profile targets to scale up the engagement of private providers. This is essential to promote accountability and unite diverse stakeholders in a common effort. The targets will provide opportunity to drive the alignment of TB referrals and notifications with early patient care-seeking behaviours, ensuring quality outcomes for all TB patients, regardless of where they seek care. Key indicators of private provider engagement should feature prominently in global and national performance reports and national strategic plans for TB. Guidance on preparing for and conducting such target-setting exercises has been published *(29)*.

The ultimate target goes beyond case notification to effective coverage, i.e. the proportion of estimated incident cases who are successfully treated by non-NTP providers. However, it is also important to capture the scale and effectiveness of referrals, as well as measures of quality of care (such as microbiological confirmation) and financial protection.

For instance, India has set ambitious targets to end TB even before the deadline of the 2030 target of the End TB Strategy (see Box). This includes targets to scale up the engagement of private care providers. These targets are a key driving force in ensuring the roll out of strategies that involve private and non-NTP providers, to increase case detection. India's National Strategic Plan for Tuberculosis (TB) Elimination, 2017–2025, constitutes an outstanding example of high-level commitment to aligning TB services with the health-care-seeking practices of the population. Almost the entire projected increase in case notification is

expected to come from private providers. The targets are backed by significant budget increases and new commitments to outsourcing, contracting and partnerships.

Table 3: Selected targets from India's National Strategic Plan Tuberculosis (TB) Elimination, 2017–2025

Target	2015 baseline	2020	2025
Private TB notifications	▪ 184 000	▪ 2 000 000	▪ 1 000 000
Private contribution to total notifications	▪ 11%	▪ 56%	▪ 50%
Proportion of private notifications with microbiological confirmation	▪ 2%	▪ 30%	▪ 45%
Treatment success rate among privately-notified TB patients	▪ 13%	▪ 90%	▪ 90%
Proportion of private providers receiving honorarium or incentive through Direct Benefit Transfer	▪ 0	▪ 80%	▪ 90%

The key performance indicators for TB (notifications, outcomes, financial protection) should all be disaggregated by the most relevant types of providers in each context:

- Level of care (primary, secondary, tertiary).
- Type of provider (health ministry, other public sector, private for-profit, non-profit).

3. Advocate for political commitment, action and investment in PPM

Advocacy plays a critical role in establishing the foundation for sustained engagement of all providers. Such activities can be designed to:

- 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 NTP; 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 PPM 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. Ministries outside the health ministry (such as the ministries of labour, social welfare, mining, among others) should also be involved to ensure engagement of providers working in collaboration with workplaces, or with vulnerable populations.

Civil society and media can play a critical role in raising awareness of the roles of different health care providers, and of new initiatives to partner with them, while community-based organizations can mobilize popular demand for quality, and accredited TB services.

In September, 2018, the World Health Organization, in collaboration with the Federal Ministry of Health, Lagos State Government, Nigeria StopTB Partneship and other key stakeholders, organized a two-day summit on engaging the private sector for TB control in Nigeria. The keynote address was delivered by the Honourable Minister of Health, Professor Isaac Adewole. There were more than 150 participants that included representatives of the private medical sector, other major corporations, development partners and NGOs.

4. Allocate adequate funding for engaging all providers, including by capitalizing on financing reforms for universal health coverage

Prioritization of private provider engagement must be reflected in budget allocations and expenditure. In countries where non-NTP providers play a major role in health care, PPM can no longer be treated as an optional extra, funded on a small scale by international donors, but must be integrated into core budgets. If intermediary organizations are contracted, their budgets must be adequate and include the costs of professional management structures. If governments rely on their own staff for private sector engagement, dedicated human resources and financing would be needed to take on this task.

As with any resource allocation decision, the determination of the amount of funding to be invested in efforts to engage non-NTP providers should be a function of incremental cost–benefit analysis, based on policy priorities. In their budgets, NTPs should be able to distinguish the costs of core stewardship functions from those of service delivery, and the latter should reflect the primary health-care-seeking preferences of the population and the real costs of engaging private providers.

Reforms for universal health coverage typically include the development of new health financing mechanisms, such as social health insurance and other forms of strategic purchasing, which 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" *(30)*. TB programmes must engage in such reforms to ensure that increased resources for health have maximum impact on TB. In countries where social health insurance schemes are beginning to achieve significant levels of population coverage, to channel significant shares of available public funding for health, and to establish platforms for effective engagement of a wide range of providers, NTPs must engage to maximize their impact on TB care and prevention *(31)*. Provider payment systems must be carefully designed and adjusted to encourage prompt and effective care as close as possible to the patient. As government financing starts covering all costs in private sector care, including initial consultation and diagnosis, there are also likely to be favourable changes in client behaviour: many poorer clients who previously favoured the cheaper and more accessible informal outlets will now tend to access the higher quality formal providers, since the previous financial disincentives to formal care are removed.

PPM and health insurance in the Democratic People's Republic of Korea

In Democratic People's Republic of Korea, a PPM initiative was introduced in 2007 and expanded from 2009. By 2016, more than 90% of TB case notification and management was taking place in private health care facilities. The National Health Insurance programme covers the full cost of all outpatient and inpatient care for TB patients. More than 210 "PPM nurses" have been assigned to 127 high-volume private hospitals to support notification and adherence. The Ministry of Health contracts the Korean Academy of TB and Lung Health to employ PPM nurses and manages the PPM programme. The TB incidence rate is estimated to have fallen from 100 per 100 000 population in 2010 to 77 in 2016, the overall treatment success rate is 83%, and 99% of family members of infectious pulmonary TB patients are examined for TB and latent TB infection.

Source: Go U, Park M, Kim U-N, Lee S, Han S, Lee J, et al. Tuberculosis prevention and care in Korea: Evolution of policy and practice. J Clin Tuberc Other Mycobact Dis 2018;11:28–36.

While data on the allocation of funding to PPM is scarce, there are signs that programmes and funders are recognizing the need to increase allocation of resources to PPM approaches. The United States Agency for International Development continues to support PPM initiatives in several priority countries, while the proportion of Global Fund grants allocated to PPM has more than doubled between 2015–17 and 2018–2020. Notable examples of the Global Fund PPM allocations in 2018–2020 include India (about US$ 50 million) and Pakistan (about US$ 44 million), and dedicated PPM grantees for the first time in Indonesia and Nigeria. International funders should increase their support for PPM, but it is equally important that high-burden countries with low reliance on international funding should integrate the costs of PPM into their core budgets.

The challenge is to integrate such programming into national funding mechanisms and to overcome remaining tendencies to favour NTP services whenever resources are constrained.

5. Partner with and build the capacity of intermediaries and key stakeholders

Engaging with private providers and other unlinked providers takes significant effort, especially for the already over-burdened NTPs. Private providers will also tend to focus on TB clinical tasks, leaving public-financed entities, such as intermediaries, to cover public health functions, such as contact investigation and tracing those lost to follow-up. Intermediary agencies could play a major role in bridging the gap between NTPs and private providers.

In several countries, engagement of large numbers of private primary care providers has been led by strong NGOs acting as intermediaries between providers and the NTPs. Deliberately building up financial and programmatic strengths of these organizations (see list) in-country should be a priority.[5]

- Generalist NGOs, such as BRAC in Bangladesh and Mercy Corps in Pakistan.
- NGOs focused on health, such as Program for Appropriate Technology in Health and Clinton Health Access Initiative in India or Management Sciences for Health in Afghanistan.
- Agencies focused on TB, such as Damien Foundation in Bangladesh, Interactive Research and Development in Pakistan, Yayasan KNCV Indonesia , the Kenya Association for the Prevention of TB and Lung Disease and the Philippines Coalition Against Tuberculosis.
- Social marketing organizations that have long engaged in private markets for family planning and other health issues, such as Population Services International in Myanmar, Greenstar in Pakistan, Social Marketing Company in Bangladesh and World Health Partners in India.
- Professional medical associations that have helped NTPs to engage private and public sector providers in several important ways, such as disseminating information, providing technical assistance, conducting training, advocacy, exerting peer pressure and boosting the credibility of NTPs *(32)*. Examples include the Indian Medical Association, the Indonesian Society of Respirology, the American Thoracic Society, the Bangladesh Medical Association, the Kenyan Association for the Prevention of TB and Lung Disease and the Cambodia Pharmacists Association. The International Standards for TB Care has also played a key role in these processes.
- Partnering with community-based organizations is also vital to build awareness on availability of services and quality of care. The Engage-TB[6] approach constitutes a framework for engaging community-based organizations in a full range of TB-related activities, from awareness raising and advocacy to treatment support.

5 Note that the organizations listed are illustrative examples only.

6 Engage-TB [website] http://www.who.int/tb/areas-of-work/community-engagement/faqs/en/, accessed 8 October 2018.

6. Establish a supportive policy and regulatory framework

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 are listed below.

- 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 health care practitioners and facilities (such as licensing, certification, registration, accreditation).
- Policy, systems and specialist staff dedicated to contracting and purchasing health services packages.

While policies are often in place, mechanisms for enforcing regulations are missing in most low- and middle-income countries. A review of mandatory TB case notification policies found that they were in place in 11 of the 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" *(33)*. The policies constitute a useful framework for engaging private providers, but countries with successful engagement schemes have focused more on helping private providers via publicly-funded support services, and less through punitive measures. 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. Digital technologies provide an important complement to support implementation of regulations.

7. Adapt flexible models of engagement applicable to local contexts

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. In the previous era of TB control it was important to standardize everything in order to go to scale; but for PPM, standardization would limit scale and effectiveness. 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, i.e. on submission of data and adherence to protocols, rather than which forms to use, how to design training, staffing patterns, etc.

Table 4: Standardization, generic features and flexibility in PPM models

Features that must be standardized	Generic features common to all PPM initiatives	Features that should vary between places and over time
▪ Diagnostic and treatment algorithms per national and international standards of TB care ▪ Notification, recording and reporting, integrated with national data system	▪ Mapping ▪ Understanding patient and provider preferences ▪ Establishing and nurturing relationships ▪ Negotiating viable value propositions ▪ Training providers as necessary, but efficiently (short trainings) ▪ Ensuring private patients have access to quality-assured diagnostics ▪ Ensuring simple models of notification, recording and reporting, often via support provided by an intermediary ▪ Ensuring private patients have access to quality-assured, appropriate drugs ▪ Minimizing direct and indirect costs to patients ▪ Supporting adherence ▪ Monitoring, evaluation and adaptation	▪ Types of providers engaged ▪ Staffing patterns and salaries for intermediaries or government staff assigned to engagement ▪ The role of incentives and enablers ▪ Arrangements for accessing drugs and diagnostics and for ensuring specimen transport ▪ Approaches to demand creation, active case finding ▪ Approaches to training staff, providers ▪ Approaches to engaging community organizations, and their role ▪ Referral mechanisms ▪ Use of digital technologies

8. Harness the power of digital technologies

Many NTPs are working to adopt digital technologies primarily to facilitate recording and reporting. This is indeed important, but they have the potential to unleash even more promising transformations in TB prevention and care *(34)*.

Standard NTP recording and reporting forms represent a major constraint to engaging non-NTP providers, especially the many independent private providers who have few, if any, staff and rudimentary record-keeping systems. Programmes and intermediary organizations have had to deploy large numbers of field staff to take on recording and reporting tasks. Recently, digital technologies have demonstrated the potential to alleviate this constraint: in several countries, mobile phone apps and call centres have been used to enable providers or their assistants to register cases.

Such systems not only make case registration easier and quicker 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. The continued rapid development of information and communication technologies constitutes a powerful enabler for improving engagement of all providers.

- **China** began the introduction of an electronic TB Information Management System in 2005. By 2009 it was in use nationwide and paper systems were discontinued. By 2017 it was being used to record an estimated 90% of incident cases. More than 250 000 users enter data on 2200 patients every day.[6]

- **India** began introduction of the Nikshay web-based case notification system in 2012. In 2017, more than 28 000 private health facilities used it to notify more than 380 000 TB patients. Use and compliance among private providers remains limited, however. Recent studies have confirmed that their main concerns remain the availability of time or staff to use the system, and privacy or confidentiality of patient data. While many private providers are willing to use mobile apps, others preferred the option of notifying cases by phone via a call centre. In 2018, the system is being upgraded to facilitate mobile-based notification and a National TB Call Centre is being established. Nikshay is also being linked to the Public Financial Management System to facilitate electronic payment of cash benefits (i.e. Direct Benefit Transfer) to TB patients, and to notify private providers and systems for digital adherence monitoring.

9. Deliver a range of financial and nonfinancial incentives and enablers

Well-designed incentives and enablers can help motivate care providers to engage in TB prevention and care. They can also ensure continued involvement of providers. Application of incentives may depend on the type of setting and may include a wide range of financial and nonfinancial motivations.[7]

The first and most essential incentive/enabler for partnership and engagement is trust. 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. Especially with private providers it is important to respect their role and understand their need to retain patients, generate revenues, offer relief to clients, and nurture their reputation. Programmes should also make efforts to recognize their contributions publicly. Programmes should ensure that patients of all providers have ready access to quality-assured, affordable or free diagnostics and drugs, as well as other financial/social support available under the programme. Often nonfinancial incentives and enablers may be more important than financial incentives, with providers being especially motivated by the improved care of their patients due to public sector inputs; but programmes should compensate providers as appropriate and necessary to achieve scale and sustainability of desired outcomes. It can be equally important to remove disincentives, such as requirement to participate in long training programmes before participating in a PPM initiative.

7 Huan S. personal communication.

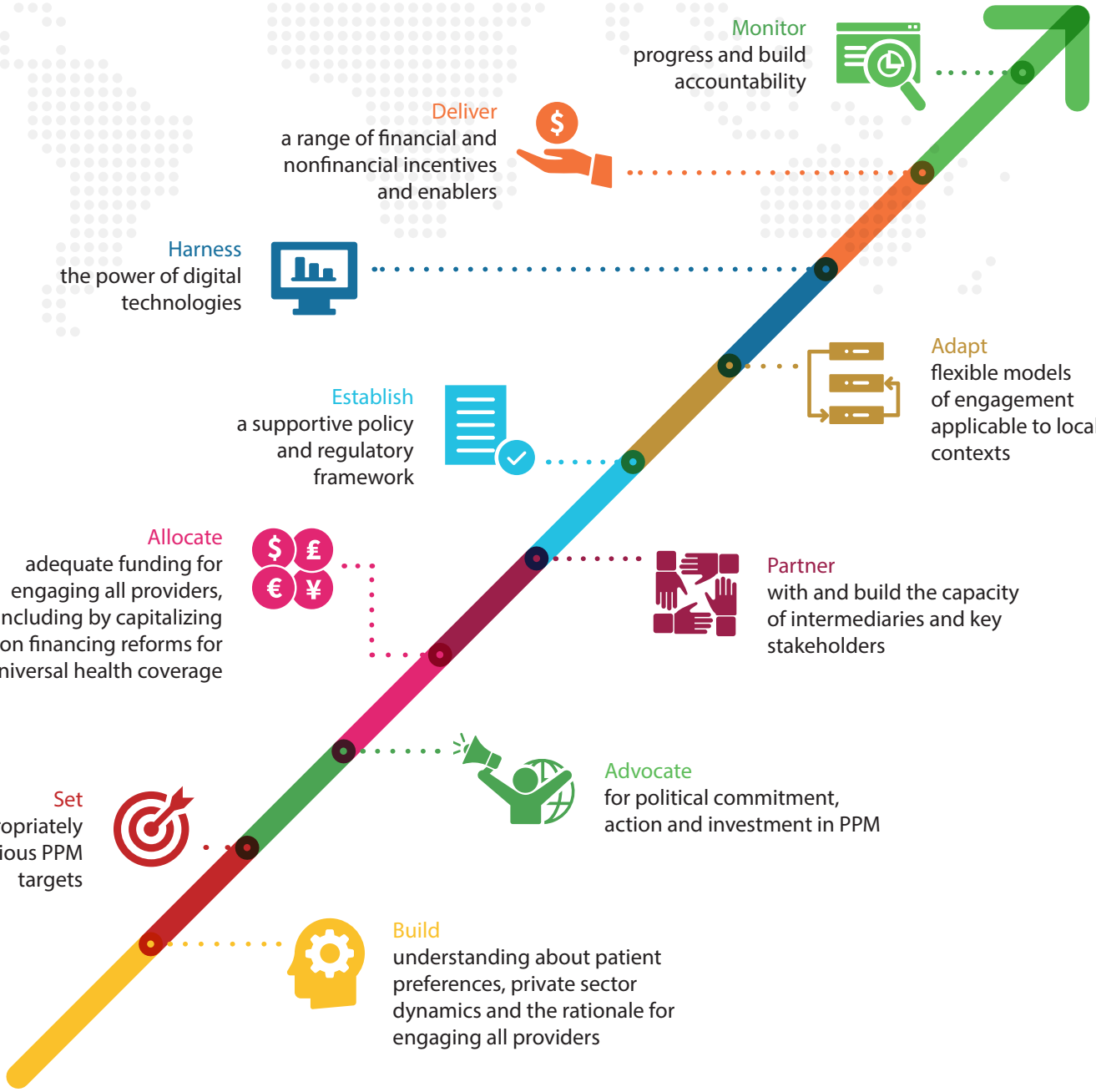
10. Monitor progress and build accountability

It is essential to continuously monitor and evaluate the contributions of PPM, in relation to the specific objectives and targets set by the NTP. This will help justify continued financial support for PPM activities, build accountability, as well as fine-tune PPM 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 health care providers; 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 will work with NTPs and their partners in a limited number of priority countries – those with particularly high TB burden and dominant nonstate health sectors – to agree on a set of indicators that can be used to monitor both effort and progress in engaging all providers, and to make up-to-date data readily accessible on a tailored web platform. Technical and financial support will be mobilized to help these NTPs improve timeliness, completeness, quality and consistency of key performance data. The annual global TB report will feature an enhanced section dedicated to the topic. WHO is also in the process of developing a multisectoral accountability framework which should include indicators on strengthening the engagement of all care providers, to ensure that countries are held accountable in rolling out PPM.

PRIORITIES FOR ACTION



Monitor
progress and build accountability

Deliver
a range of financial and nonfinancial incentives and enablers

Harness
the power of digital technologies

Adapt
flexible models of engagement applicable to local contexts

Establish
a supportive policy and regulatory framework

Allocate
adequate funding for engaging all providers, including by capitalizing on financing reforms for universal health coverage

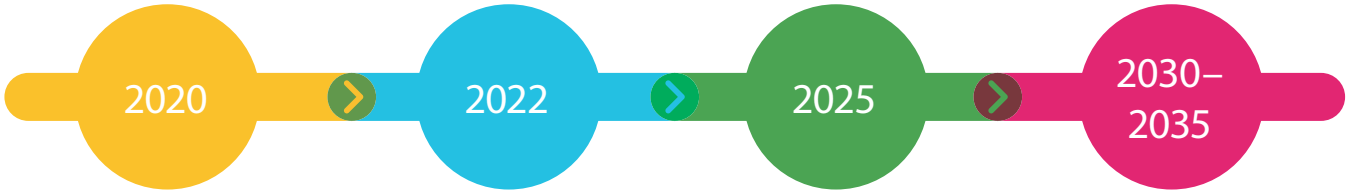
Partner
with and build the capacity of intermediaries and key stakeholders

Advocate
for political commitment, action and investment in PPM

Set
appropriately ambitious PPM targets

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

TIMELINE FOR ACTION



2020

Financing

- Further increases in Global Fund grant allocations to PPM
- Data available on resource allocation for PPM in priority countries

Coverage

- NTPs in priority countries have improved the understanding of patient pathways and the role of all providers

Outcomes / targets

- 13 Strategic Initiative countries achieve target of detecting 1.5 million additional TB cases
- Priority countries agree on enhanced PPM dashboard and targets

Monitoring / evaluation

- PPM priority countries analyse data on outcomes by type of notifying provider
- Composite indicator of alignment of TB services with health systems developed and tested

2022

Outcomes / targets

- 30 high TB burden countries reach 90% treatment coverage target of the End TB Strategy and Find.Treat.All.#EndTB Initiative

2025

Financing

- Global Fund grant budgets reflect the role of different provider types in each country
- NTP resource allocations reflect primary care-seeking preferences of the population

Coverage

- Most relevant non-state providers systematically engaged for TB at scale in 50% of priority countries

Outcomes / targets

- Dashboard in use, and significant progress on reaching targets in priority countries

Monitoring / evaluation

- Data on outcomes by type of notifying provider systematically integrated in global and national TB monitoring reports. Expanded section on PPM in WHO Global TB report
- Composite indicator of alignment of TB services with mixed health system in use by PPM priority countries

2030–2035

Financing

- All funding for TB service delivery in high-burden countries reflects the role of different provider types in care-seeking

Coverage

- All high-burden countries analyse data on effective coverage by type of provider responsible for referring, notifying and treating TB patients
- Most relevant non-state providers systematically engaged for TB at scale in 100% of priority countries

Outcomes / targets

- All TB patients managed according to national protocols, with financial protection, regardless of where they seek care
- Dashboard in use, and further progress on reaching targets in priority countries

Monitoring / evaluation

- Full alignment of TB services with primary care-seeking behaviour of the population
- Composite indicator of alignment of TB services with mixed health system in PPM priority countries shows significant improvement

RESOURCES

Key journal articles

Uplekar M, Pathania V, Raviglione M. Private practitioners and public health: weak links in tuberculosis control. Lancet 2001;358:912–6.

Lönnroth K, Uplekar M, Arora VK, Juvekar S, Lan NT, Mwaniki D, et al. Public–private mix for DOTS implementation: what makes it work? Bull World Health Organ 2004;82:580–6.

Malmborg R, Mann G, Squire SB. A systematic assessment of the concept and practice of public–private mix for tuberculosis care and control, Int J Equity Health 2011;10:49.

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Konduri N, Delmotte E, Rutta E. Engagement of the private pharmaceutical sector for TB control: rhetoric or reality? J Pharm Policy Pract 2017;10:6.

WHO Guidance on PPM

Year	Title	WHO Ref	Link
2001	• Involving private providers in tuberculosis control: issues, interventions and emerging policy framework	• WHO/CDS/TB/2001.285	• **http://www.who.int/tb/publications/private-practitioners-control/en/**
2003	• Public–private mix 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	• Public–private mix for TB care and control: a tool for national situation assessment	• 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 though public–private mix and partnerships	• WHO/HTM/TB/2008.408	• **http://www.who.int/tb/publications/tb-public-private/en/**

Year	Title	WHO Ref	Link
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 tuberculosis (DR-TB) management at country level	• WHO/HTM/TB/2015.17	• **http://www.who.int/tb/publications/situation-assessment-tool-providor-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 tuberculosis	• 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 with USAID	• **http://www.who.int/tb/publications/2017/PPMActionPlanGuide/en/**
2018	• Engaging private healthcare providers in TB care and prevention: a landscape analysis	• WHO/CDS/TB/2018.33	• **http://www.who.int/tb/publications/2018/PPMlandscape/**

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Notes

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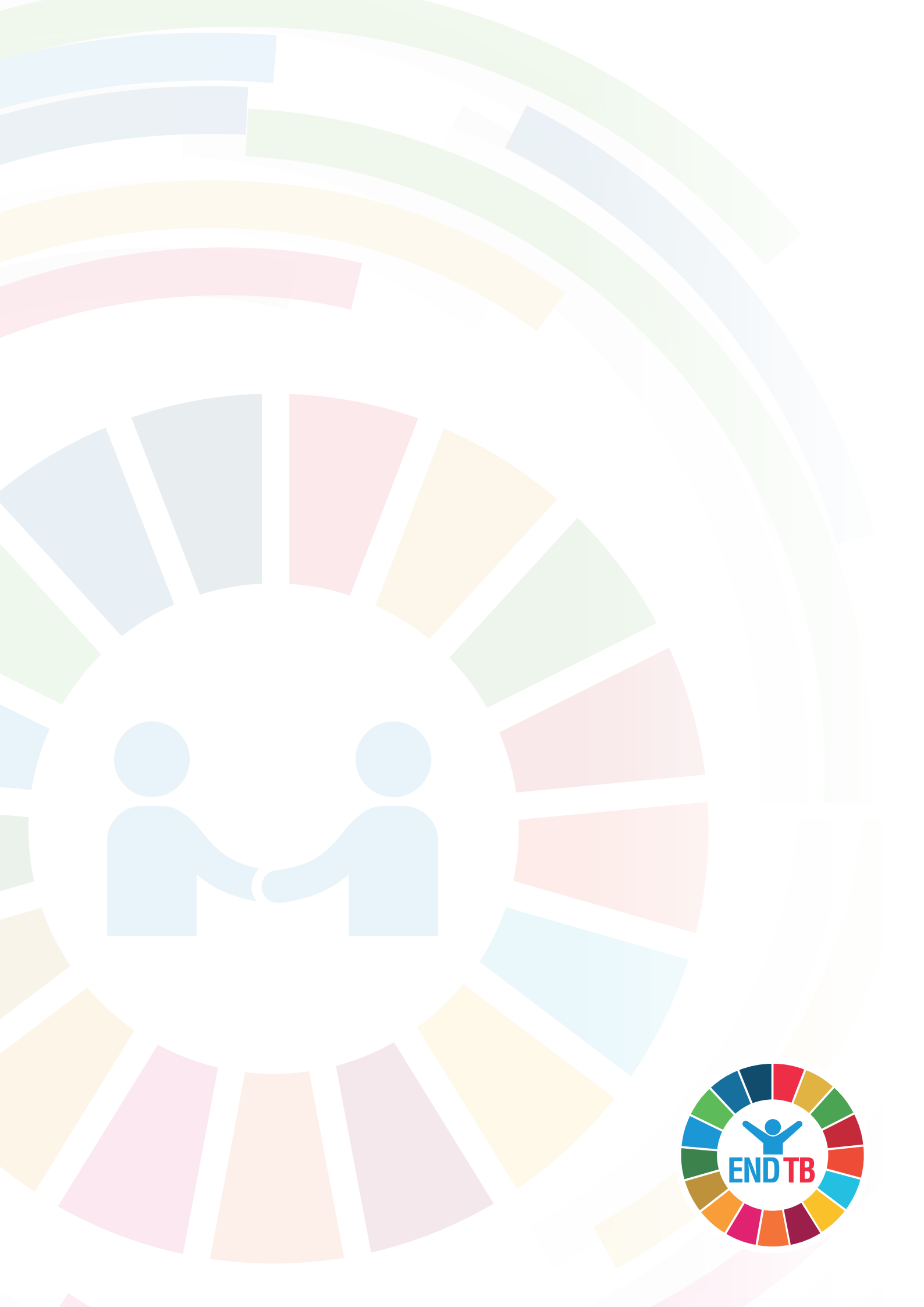
END TB