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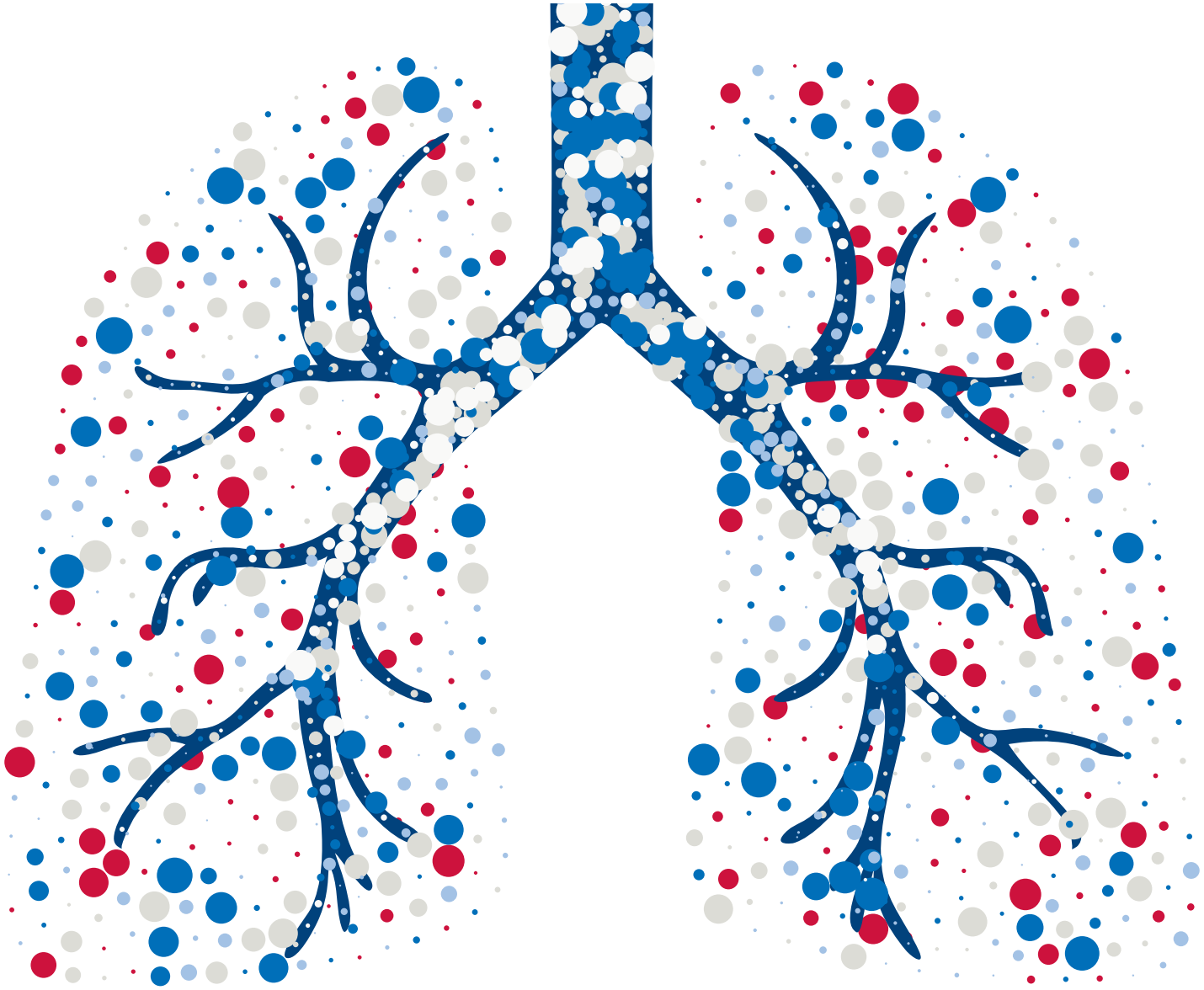
Engaging Private Providers to Improve TB Outcomes in Indonesia



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Executive Summary

Tuberculosis is a pressing health problem in Indonesia, with ~1 million people estimated to develop new active TB cases each year. Furthermore, Indonesia is home to 17% of missing—undiagnosed and diagnosed but not reported—TB cases worldwide. While progress is evident in the decline in estimated TB incidence and rise in treatment success rate in Indonesia, there is still a considerable distance to go in the fight against TB. Indonesia's National Tuberculosis Prevalence Survey (NPS) indicates that 74% of initial care-seeking for TB and nearly half of all TB treatment occurs in the private sector among general practitioners, clinics, and hospitals operating outside the public health care system. Given the public health mandate of the National Tuberculosis Program (NTP), private providers have not historically been a focus of TB interventions. This is reflected in the very low rates of case notification from private providers; only 9% of TB cases reported to the NTP originate with private providers. However, the NTP's focus is shifting to include greater engagement of the private sector. Its 2016–2020 strategic plan acknowledges the "involvement of all providers, public and private, in expanding TB care and sustainability of TB care comprehensively under coordination from the District Health Office," and it recently launched district- and sub-district-based public-private mix (PPM) programming focused on identifying missing cases in the private sector.

In addition to the NTP's increasing focus on the private sector, the rapidly growing Jaminan Kesehatan Nasional (JKN), Indonesia's national health insurance system offers a particular opportunity to influence private sector behavior. With nearly 70% of Indonesia's population enrolled in JKN and thousands of private providers under contract to Badan Penyelenggara Jaminan Sosial—Kesehatan (BPJS-K), the agency that administers the program, there is a unique lever for change across Indonesia's otherwise largely decentralized health system.

Objectives and Methodology

In this context and in support of the NTP's strategic objectives around PPM, the US Agency for International Development (USAID) commissioned this review to supplement existing evidence on private sector TB care in Indonesia. The objectives were to deepen the understanding of private sector patient and provider behaviors and motivations and to identify solutions that would align with these realities and most effectively improve health outcomes for private sector TB patients. This review was not intended to provide a representative view of private sector TB care or to address the substantial number of patients who are treated in public health care facilities.

The review focused on four districts that fall in provinces prioritized through USAID's Country Development Cooperation Strategy: Medan (North Sumatera province), North Jakarta and East Jakarta (the special capital region. Daerah Khusus Ibukota [DKI] Jakarta province), and Jember (East Java province). Within each district, the review team conducted qualitative fieldwork that included structured interviews and focus groups that included TB patients treated in the private sector, physicians practicing in private facilities, pharmacists working in private pharmacies, and private laboratory administrators. This was further supplemented by interviews with a range of local, national, and international stakeholders. Socialization meetings were held with Dinas Kesehatan—provincial and district-level Health Authority—as well as the NTP.

To understand the findings of this review, it is important to note that the patients and providers who participated in interviews and focus groups did not constitute a representative sample. First, all of the patients recruited for this review were treated in the private sector at some point during their TB care. Likewise, the selected physicians were those who practice in a private health care facility at least some of the time. Furthermore, all pharmacies and laboratories included in the review are privately operated outside of government facilities. In addition, while effort was made to identify interviewees who represent different populations of interest (such as physicians in facilities that are and are not under contract to BPJS-K), the interviewees were recruited on the basis of convenience rather than with the aim of assembling a representative sample. As a result, the interviewees selected for this review may be biased in favor of certain groups, practices, and opinions, but they nevertheless successfully highlight a number of important themes for private sector TB care in Indonesia.

Key Findings

Based on these interviews and focus groups, the findings of this review focus in four areas: BPJS-K participation, awareness of and participation in TB programming, the patient pathway, and key opportunities for improving the quality of private sector TB care.

BPJS-K Participation. Of the patients interviewed, 85% were enrolled in BPJS-K, and those patients who had coverage were familiar with BPJS-K policies and typically used it to pay for their TB care. BPJS-K was less frequently used for TB diagnostics and drugs, likely because almost no private pharmacies or labs outside of hospitals are under contract to BPJS-K. Among the private physicians interviewed, 73% to 83%, depending on specialty, reported that they accept BPJS-K coverage, depending on specialty.

Perspective on TB Guidelines and Programming. Among doctors interviewed, 68% of GPs, 69% of internists, and 80% of pulmonologists said that they are aware of national guidelines regarding TB, and nearly all the remaining interviewees reported that they are at least somewhat aware. Most of the private physicians who said that they do not adhere to national guidelines cited clinical considerations (such as medication side effects).

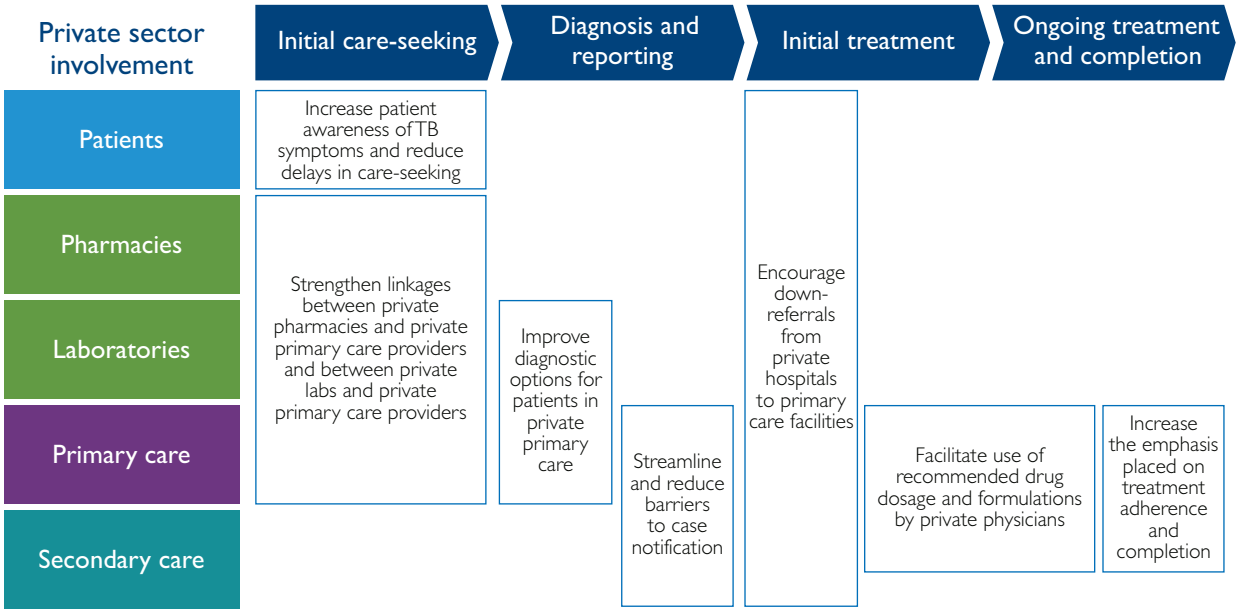
The private physicians interviewed were largely aware that government-sponsored TB programming exists, but only pulmonologists had participated in any programs or trainings with substantial frequency (65% compared with less than one-third of GPs or internists). In the districts where this review was conducted, CTB has collaborated with PDPI to engage private pulmonologists. Of those who had participated, only 50% to 67% rated these programs as excellent or very good. Private physicians expressed concern about the infrequency of trainings for the private sector and the time commitment required. They said that they value opportunities to learn about new advances and discuss patient cases with their peers. For the private physicians interviewed, the primary sources of information on TB care are discussions with other physicians and conferences. GPs and internists also cited hospital circulars, while pulmonologists were more likely to name their professional association as a key source of information—also a likely outcome of PDPI's efforts to engage private pulmonologists in these districts.

Patient Pathway. This review was consistent with existing evidence that many people with TB symptoms first seek symptom-relieving care at private pharmacies. When the patients interviewed for this review decided to see a doctor, 65% visited a primary care provider, and 44% of those went to a Pusat Kesehatan Masyarakat (Puskesmas), or community health center. In selecting a provider, patients prioritized proximity to their home, the ease of getting an appointment, and coverage through BPJS-K. However, nearly half of the patients interviewed visited three or more providers in the course of their TB care, and 79% were ultimately treated at a private hospital. Although it could be expected that—owing to the sample recruitment approach used for this review—up to 70% of the patients interviewed would be treated at a private hospital, 79% is still higher than anticipated. The factors driving patients to private hospital TB care include: the greater proportion of private hospitals accepting BPJS-K coverage, the lack of private-sector BPJS-K coverage for TB diagnostics and drugs outside of hospitals, patients' preferences for the convenience of the one-stop shop available at hospitals, and economic incentives for private GPs (to refer up) and hospitals (to retain patients).

Successes and Challenges Throughout the Patient Journey. The review highlighted areas in which the private sector is delivering appropriate care to TB patients and areas that could be improved. Seven key opportunities surfaced across the patient journey. (See Exhibit 1.)

Care-seeking: Of the patients interviewed, 45% said that they waited four or more weeks after first experiencing symptoms before they consulted a doctor, and only 10% suspected that they might have TB. Some patients are

Exhibit 1: Stages of the Patient Journey



also not aware that TB can be cured and were therefore afraid to visit a doctor. These factors often lead to patients self-medicate at a private pharmacy for several weeks before turning to a physician. In addition, private laboratory managers reported that 30% of their customers for TB testing were walk-ins without a prescription from a physician. However, neither private pharmacies nor private labs reported consistently referring patients who have TB symptoms or who request TB tests to a doctor.

Diagnosis and Reporting. Many patients reported seeing multiple primary care providers (both public and private) before getting a TB diagnosis. This would happen if a patient was referred to another facility with better diagnostic capabilities or because the original physician wanted to observe the patient's symptoms before making a diagnosis (at which point, the patient may decide to switch to another physician). Some private physicians were also unable to identify some of the symptoms of TB. In many cases, patients went to a private hospital for diagnosis, either with a referral or because their health had deteriorated to the point that they chose to visit the emergency room. When private GPs do diagnose TB, only 60% (compared with 84% and 92% of internists and pulmonologists, respectively) use a sputum smear. This is largely due to concerns about the accuracy of the test and the quality of test procedures at private labs.

Most private physicians are aware that diagnosed TB cases should be reported to Dinas Kesehatan. However, they do not view this as a mandatory obligation, and many think that reporting a TB case requires too much time and paperwork that come with no perceived consequence or benefit for the physician.

Initial and Ongoing Treatment. Many patients who are referred to a private hospital for diagnostic tests or seek care at a private hospital emergency room or clinic remain in the hospital for treatment. This could be driven by patient preference or by the economic incentives established by BPJS-K's payment structures for both private GPs and private hospitals. Although private hospitals are supposed to down-refer most TB patients to primary care, this was not frequently observed in this review (even though the patients in this review did not have high rates of comorbidity or other complicating conditions that would require advanced care).

Among the private physicians interviewed for this review, 81% of GPs, 79% of internists, and 85% of pulmonologists reported prescribing the recommended first-line TB drugs for an appropriate duration. However, many physicians reported prescribing drug dosages that were not aligned with the recommended dosage for specific patient weight bands. For example, only 41% to 47% of private physicians reported prescribing the recommended dose of pyrazinamide. In addition, prescription of loose drugs is common, owing to clinical reasons (the need to manage side effects) and the lack of availability of fixed-dose combinations (FDCs) in private pharmacies. Private physicians reported that it is difficult for them to access government-funded FDCs, given the lengthy training and time-consuming case reporting required. In addition, patients are not always aware that free FDCs can be

obtained at a Puskesmas, and even if they are aware of this, they prefer to use BPJS-K coverage to obtain TB drugs at no cost at private-hospital pharmacies.

Finally, only 18% of the private GPs, 28% of internists, and 6% of pulmonologists interviewed indicated that they follow up with TB patients who miss an appointment. Doctors recognize that patients' failure keep up with their treatment is a leading reason for inadequate TB care, but they do not see treatment completion as their responsibility. They either think that it is a patient's choice to seek treatment elsewhere or prefer to focus on "patients who are serious about treatment."

Discussion: Potential Solutions

Throughout this review, potential solutions were informed by private sector patient and provider perspectives, as well as input from the NTP, Dinas Kesehatan officials, and other stakeholders. This was accomplished through a set of solution workshops with user-centered design exercises that were structured to elicit creative ideas.

The design of potential solutions was informed by a set of guiding principles developed with stakeholder input:

- Potential solutions and interventions should build on existing systems to ensure ongoing sustainability. They should also consider the possible roles played by different actors in the existing health system.
- Uncomplicated, drug-sensitive TB should be treated at the primary-care level. Patients who seek treatment for uncomplicated, drug-sensitive TB at the primary-care level should be kept there, with a minimum of up-referrals. Down-referrals from secondary care should be encouraged whenever appropriate.
- Guidance for TB care and potential interventions should be patient centric—designed around patient and provider preferences—and, whenever possible, should work in concert with (rather than fight against) existing incentives, such as, low-cost, discreet, and convenient interventions that allow patients to remain in the private sector if desired).
- Given the timeline and effort required to pilot and implement certain interventions, proposed solutions should include a mix of "quicker wins" and more transformational interventions.

The full report summarizes solution ideas raised by patients, providers, and other stakeholders. It also includes more detailed discussion on a range of solutions for each of the opportunities described above, building on four key levers for behavior change: knowledge, enablers, incentives, and accountability. However, six themes that emerged across these opportunities are briefly highlighted below, along with the implications of these themes for the most promising interventions and next steps.

Regulation is not a sufficient lever to drive behavior change in the private sector. A strong regulatory and policy framework lays an important foundation by clarifying expected standards and behaviors. However, on its own, it is not enough to change behavior in Indonesia's private sector. During this review, several examples emerged that show that private providers seem to regard technical guidance and regulations as optional considerations. Meanwhile, systems are not in place to monitor compliance, and consequences are limited. Therefore, effort is better spent on interventions that do not require enforcement unless absolutely necessary.

Incentives have the greatest potential to change behavior in the private sector. Not only are incentives effective in changing behavior, they also entice private sector actors to invest their own resources in building the knowledge or tools they need to ensure that they will reap the benefits of that incentive. Given the expansion of its national-health-insurance system, Indonesia has a particular opportunity to shape incentives for private-sector patients and providers through BPJS-K policies and payment structures. Furthermore, while government health officials indicated a number of challenges associated with financial incentives paid by the Ministry of Health (MoH), they viewed incentives structured through BPJS-K payments as significantly more acceptable. The NTP can collaborate with the relevant Government of Indonesia agencies and participate in ongoing discussions to ensure that insurance frameworks reinforce optimal TB care in the private sector. A promising example of this would be a specific payment to physicians upon successful completion of treatment for a notified TB case. Such an incentive would generate physicians' greater attention to both case reporting and treatment adherence. Another example would be to offer a separate payment to private hospitals for diagnostic tests (beyond chest x-rays). This

would reduce the incentive for private hospitals to keep patients referred to them for TB tests. In addition to incentives related to BPJS-K contracting and payments, nonfinancial incentives that leverage continuing education, other licensing requirements, and joint referral networks should be explored further.

Solutions for private providers must meet private providers' needs: they must be targeted, simple, and consistent. Throughout this review, private sector providers and patients expressed preferences for convenience, simplicity, and solutions that reduce the required level of effort. Indeed, this preference was sufficiently strong among interviewees that it could override other incentives. One aspect of convenience is the consistency with which different programs or solutions are offered. Private providers expressed a desire for consistent programming and solutions that would make it easier for them to determine which options are available to them and how those options can be accessed. This illustrates the importance of involving private providers as part of the coalition implementing the NTP's district-based PPM model.

These preferences have important implications for the design of private-sector solutions, especially those that do not have a strong financial incentive component. Training and other forms of knowledge-building are an illustrative example. This would mean designing interventions that are short and focused on information that either fills critical gaps in participants' knowledge or educates them about a new practice or policy. As part of the district-based PPM coalition, professional associations can play a key role by identifying the most critical information to highlight for private providers. Solutions should focus on practical steps and pathways rather than large amounts of theory. And knowledge-focused solutions should be creative in terms of the format used, going beyond training and using delivery mechanisms such as WhatsApp and Line, self-service video, pocket-sized references, and doctor-to-doctor coaching. As each district coalition designs its area-specific plan to engage private providers, it is critical to engage the intended participants in the design process so that solutions can be tailored to meet potential users' needs and preferences.

Recognize that patients play an important role in their own care. It is important not to underestimate the role of patients throughout their experience of TB care. While providers clearly affect patient behaviors, this influence is mutual: patient preferences inform physicians' decision-making processes. Equipped with accurate information, patients can make good choices for themselves and also help encourage certain desired provider behaviors. Especially in the private sector, in which physicians, labs, and pharmacies all rely on patient volume to generate revenues, patient preference can be a strong incentive. Patients can be enabled to advocate for themselves through campaigns and resources that share accurate, user-friendly information about TB. However, it is important to design the format and channels for these interventions so that they target specific behaviors that can practicably be influenced and to do so in collaboration with the target audience. For example, the patients interviewed for this review paid for their treatment at private providers with BPJS-K insurance or made out-of-pocket payments, indicating that they have either the savvy to enroll in the national health insurance program and/or the economic means to afford out-of-pocket payments. Patients also reported monthly household expenditures of IDR 3 million on average, similar to the Indonesian national average. Public information campaigns should be tailored to acknowledge the socioeconomic status and likely education level of these patients.

Diagnosis is a key point of intervention, and improved diagnostic options are needed, especially in primary care. Obtaining a diagnosis is one of the key challenges facing private sector TB patients. The process often involves visits to multiple providers and obtaining tests at several separate facilities, some of which require out-of-pocket payment. In addition, private primary care physicians are often hesitant about their ability to obtain a clear diagnostic test result, especially given some of the practices at private labs. These challenges can extend the time between TB onset and the initiation of patient treatment.

Further expanding the availability of the diagnostic test GeneXpert could play a critical role in addressing this challenge, especially in light of the investments Indonesia has already made in moving down this path. Private investment in GeneXpert could be supported by providing private providers with access to preferential public-sector pricing for equipment and test consumables as currently planned by the NTP and USAID's Challenge TB project (CTB). There is another opportunity for leveraging BPJS-K payment policies to incentivize its use by private providers. A sufficient reimbursement for GeneXpert, coupled with favorable (public sector) pricing for cartridges, would encourage private facilities to invest in the machine, market it to smaller providers, and invest in infrastructure to enable its use. The extent to which this solution is driven by the private market helps ensure its sustainability, but this is another area in which public leadership is required in order to avoid some of the pitfalls that other countries have experienced, particularly those pitfalls related to ensuring reasonable private sector pricing for GeneXpert tests. Furthermore, leadership by coalitions at the district level could help encourage

use of labs with GeneXpert and participation in sputum transportation networks.

In areas where the expected volume of TB tests across a district or sub-district does not justify investment in GeneXpert, it could be productive to encourage private labs to invest in quality assurance through a variety of incentives linked to BPJS-K reimbursement or licensing. These efforts should build on existing quality assurance systems. If incentives are sufficiently strong, they may also motivate private labs to invest in training or other resources for their staff. Given the lower number of presumptive TB cases in these areas, strengthening private labs should be viewed as a holistic effort implemented by district or provincial health offices across diseases, TB testing being one component.

Increase focus on primary care, both improving quality and retaining patients. As noted above, most TB patients should be treated in primary care, both to improve patient outcomes and to reduce the cost of treatment for the health system and the patient. However, more private sector TB patients are treated in hospitals than might be expected on the basis of their health conditions, and many patients in this review who were being treated in private hospitals started their TB care with a primary-care provider. Historically, private sector engagement in TB in Indonesia has also focused on hospitals and pulmonologists. Intervention is required to keep patients in primary care, and if TB care is successfully managed in primary care, then private sector engagement efforts will increasingly need to focus on these providers in order to impact the largest number of TB patients.

To direct TB patients to primary care, keep them there, and ensure that they receive high-quality care will require an integrated set of solutions. This means covering the entire patient pathway at the primary level, including care-seeking, diagnosis, drugs, adherence, and monitoring. Solutions must accommodate patient preferences and account for patients' and providers' economic incentives.

Potential solutions to direct TB patients to primary care and retain them include:

- Active screening for TB symptoms in private pharmacies and labs and by community partners to reduce the delay between symptom onset and the first physician visit.
- Interventions to improve the convenience and affordability of diagnostic options in private primary care, such as expanding access to GeneXpert and enrolling quality-certified private labs in BPJS-K.
- Expanding access to government-funded FDCs, by dispensing through private primary care providers or private pharmacies under contract to BPJS-K.
- Strengthening enforcement of private hospital down-referral policies by, for example, monitoring claims data to identify disallowed repeat outpatient visits.

Conclusion

To win the fight against TB, Indonesia must think creatively about how it engages the private sector, adopting the mindset of private sector patients and providers. The nation has an especially unique opportunity to leverage its national health insurance system to create the kinds of incentives that elicit private sector results. Indonesia's response to the TB epidemic must also consider the substantial variation in conditions in each of its 514 districts, reflected in its decentralized government and the planned district-based approach to engage public and private providers. The resulting interventions may result in a TB cascade that is less controlled than in the public sector, but they will also offer far more visibility into private sector TB care and a much improved ability to influence outcomes positively. Each of the opportunities noted above, potential solutions, and cross-cutting themes are detailed more fully in the attached report. More study and planning is required in many areas to implement the most effective solutions. Still, this review aims to highlight the areas that merit the greatest attention in order to improve private sector TB care and to inform the conversation focused on determining the most effective solutions.

Glossary

Acronyms	Definition
BPJS-K	Badan Penyelenggara Jaminan Sosial—Kesehatan (Social Security Management Agency—Health)
CTB	Challenge TB project of USAID
Dinas Kesehatan	Health Authority
DKI	Daerah Khusus Ibukota (special capital region)
DOTS	Directly observed treatment-short course
DST	Drug susceptibility testing
ESR	Erythrocyte Sedimentation Rate (diagnostic blood test)
FDC	Fixed-dose combination
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GP	General practitioner
IAI	Ikatan Apoteker Indonesia (Association of Indonesian Pharmacists)
IAPI	Perhimpunan Dokter Spesialis Patologi Indonesia (Association of Indonesian Pathologists)
IDI	Ikatan Dokter Indonesia (Indonesian Medical Association)
IDR	Indonesian rupiah
IGRA	Interferon Gamma Release Assay (TB blood test)
ISTC	International Standards for TB Care
JEMM	Joint External Monitoring Mission
JKN	Jaminan Kesehatan Nasional (national health insurance system)
Kabupaten	Regency (a type of second-level administrative subdivision in Indonesia, referred to as "districts" collectively with kotas [see below])
Kota	City (a type of second-level administrative subdivision in Indonesia, referred to as "districts" collectively with kabupatens [see above])
MDR-TB	Multidrug-resistant TB
MoH	Ministry of Health

NGO	Nongovernment Organization
NPS	Indonesia's National Tuberculosis Prevalence Survey
NTP	National Tuberculosis Program
PAPDI	Perhimpunan Dokter Spesialis Penyakit Dalam Indonesia (Association of Indonesian Internists)
PDPI	Perhimpunan Dokter Paru Indonesia (Association of Indonesian Pulmonologists)
PDUI	Perhimpunan Dokter Umum Indonesia (Association of Indonesian General Practitioners)
PME	Pemantapan Mutu Eksternal (external quality assurance)
Posbindu	Pos Pembinaan Terpadu (Integrated Coaching Service Centre)
Posyandu	Pos Pelayanan Terpadu (Integrated Health Services Post)
PPM	Public-private mix
Puskesmas	Pusat Kesehatan Masyarakat (public community health center)
SITB	Sistem Informasi TB (TB Information System)
SITT	Sistem Informasi Tuberkulosis Terintegrasi (Integrated Tuberculosis Information System)
TB	Tuberculosis
TOSS TB	Temukan Obati Sampai Sembuh (Find, Treat, and Cure TB)
USAID	US Agency for International Development
WHO	World Health Organization

1. Background

1.1 Tuberculosis in Indonesia

Tuberculosis is a pressing health problem in Indonesia, with more than 1 million new and relapse cases estimated each year. Indonesia has the second-highest TB burden in the world, and globally, it accounts for 17% of the so-called missing—undiagnosed and diagnosed but not reported—cases of TB.[1] Tuberculosis is Indonesia's third-leading cause of death and the most deadly communicable disease in the country.[2] Furthermore, evidence suggests that TB disproportionately affects such vulnerable populations as the poor, the elderly, and people living with HIV.[3] In addition to the significant physical, emotional, and financial effects on an individual or family affected by TB, the annual national economic burden imposed by TB is estimated at US$6.9 billion.[4]

Indonesia has made considerable progress halting the effects of tuberculosis. Estimated TB incidence per 100,000 of the population has decreased from 449 in 2000 to 395 in 2015.[5] From 2005 through 2015, a robust treatment success rate of 84% for reported patients and the introduction of treatment for multidrug-resistant TB (MDR-TB) have contributed to a 27% decrease in deaths from tuberculosis.[6] These achievements have likely been supported by the rollout of national health insurance coverage, which now reaches nearly 70% of Indonesia's population, given indications that the program has led to increased health care utilization.[7, 8] The improvements have been enabled also by a robust policy framework implemented by the Government of Indonesia, including an updated 2016–2020 National Strategic Plan and a 2016 Ministry of Health (MoH) decree on mandatory case notification, which is currently being implemented.[9]

Despite these achievements, there is still considerable need for further progress. Most notably, the World Health Organization (WHO) estimates that 1.02 million new incident TB cases arise in Indonesia each year, yet only one-third of that number—358,608 in 2016—are reported to the local health authority and the National Tuberculosis Program (NTP).[10] The case notification rate has remained steady for the past five years. Without comprehensive case reporting, it is difficult for the NTP to ensure quality diagnosis and care, monitor outbreaks, and track progress against its objectives. Identifying missing cases and increasing the notification rate is therefore key to improving both individual patient outcomes and national management of TB. Furthermore, it is possible that increased case reporting will reveal regions where treatment success rates are not uniformly high, especially given the variation already observed among provinces (from 94% in North Sulawesi to 37% in Central Kalimatan[11]) and among different providers.[12]

While some cases may be missing as a result of difficulties accessing diagnosis and care, it is believed that many missing cases are TB patients who are accessing care from private providers. Surveys indicate that private providers treats 42% of TB cases but contributes only 9% of all cases reported to the NTP.[13] Even among the 9% reported by private providers, the vast majority are from private hospitals, and the few that are from private GPs are mostly located in just three provinces. Because private providers are not well linked to the national health system, there is a great deal of concern about the quality of care for the many TB patients who seek care from private providers.

In addition to the major challenge of locating Indonesia's missing TB cases, there are other issues that are relevant

to treatment by private providers and more broadly. These include the spread of MDR-TB, which can be exacerbated by the irregular supply of over-the-counter TB drugs in private pharmacies and loss to follow-up as patients move between providers. Indonesia also faces difficulties ensuring access to diagnosis and care among children, the elderly, and the urban poor, as well as managing TB coinfection with such conditions as HIV and diabetes. These challenges are relevant to TB care in both the public and private sectors.

1.2 The role of private providers in TB care in Indonesia

The for-profit health care sector in Indonesia is growing. In 2015, there were 110,000 registered GPs practicing privately; 24,716 private pharmacies; 8,615 licensed drug shops, and more than 1,500 private hospitals.[14] The number of for-profit hospitals doubled in the decade from 2001 to 2011, while not-for-profit hospital growth was limited.

As the Indonesian economy grows and enrollment in Jaminan Kesehatan Nasional (JKN), Indonesia's national health insurance program, increases, more patients have the ability to access private health care services. This is also enabled by the large number of private providers that have been contracted by Badan Penyelenggara Jaminan Sosial—Kesehatan (BPJS-K), the agency responsible for administering JKN. More than 1,000 secondary and tertiary facilities and nearly 10,000 private primary care providers have been engaged by BPJS-K, allowing Indonesians with JKN coverage to access private providers even if they cannot afford to make out-of-pocket payment.

Many patients prefer private providers because they are more readily accessible and offer longer operating hours and shorter wait times, and many also believe that private facilities provide superior service.[15] On the supply side, many specialists in public facilities also work in private facilities in order to supplement their income, and regulations that seek to limit outside employment are not always enforced.[16] These dynamics and preferences are evident in that nearly 75% of people with TB initially seek care from a private provider, and 40% of TB patients are treated by private providers.[17] Even among patients who ultimately are treated for TB in a public facility, many initially seek care at a private provider—typically a pharmacy. Engaging private providers is key to reducing the delay between seeking care and eventual treatment.

In line with the overall trend among Indonesians toward self-medication, private pharmacies play a particularly important role in TB patients' care-seeking.[18] About half of all TB patients initially seek care at a private pharmacy, compared with just under 20% who seek care at a public primary care facility.[19] Typically, patients visit a pharmacy to seek symptom-relieving drugs, such as cough syrup, or to self-medicate with TB drugs without a prescription.[20] The private sector drug market is considerable and includes a number of domestic manufacturers. One study estimated that private sector TB drug sales alone could cover treatment for more than 100% of reported TB cases annually.[21]

The quality of care delivered by private providers varies widely. One study of 550 private GPs in eight cities in Indonesia found that many TB case management practices among private GPs were not in line with guidelines.[22] Awareness of the International Standards for TB Care (ISTC) ranged from 24% to 74%, and consistently fewer than half of the GPs had undertaken ISTC training. Only 62% to 85% would use smear microscopy to diagnose pulmonary TB despite the wide availability of testing facilities and clear government guidelines to do so. When it came to treatment, 10% to 45% had wrongly prescribed second-line anti-TB drugs for treating new uncomplicated adult TB cases, and less than 50% appointed a treatment observer to ensure treatment completion.

1.3 Earlier efforts to engage Indonesia's private providers

The NTP has steadily increased its focus on private providers, especially since the mid-2000s. The second NTP strategic plan (2006–2010) acknowledged the need to improve directly observed treatment-short course (DOTS) adherence in the private sector by working with professional associations to promote the ISTC, establishing DOTS teams in public and private hospitals, improving the reference laboratory network, and strengthening quality assurance. The third strategic plan (2010–2015) focused on making reporting mandatory, with considerable national advocacy culminating in the mandatory notification policy signed in January 2017. It also expanded the focus on HIV coinfection and MDR-TB. This shift reduced the attention given to the private sector for a few years, but attention is rising again.[23]

Guided by these strategic plans, there have been a number of efforts to engage private physicians in TB care. These have, for the most part, focused on training for private physicians delivered by professional associations and funded by international donors such as the US Agency for International Development (USAID) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM). For example, Ikatan Dokter Indonesia (IDI), the Indonesian Medical Association, deployed retired

physicians to conduct trainings for 30 private doctors per province across 18 provinces. This effort was supported by Perhimpunan Dokter Umum Indonesia (PDUI), the Association of Indonesian General Practitioners, which organized train-the-trainer workshops in ten provinces. Furthermore, since 2010, Perhimpunan Dokter Paru Indonesia (PDPI), the Association of Indonesian Pulmonologists, has engaged about 100 pulmonologists across 60 private hospitals to implement ISTC standards, DOTS practice, and case notification. Distance learning courses were also created for private providers by the USAID's Challenge TB (CTB) project. The ability of private providers to access government-funded TB medicines (to, for example, stock them in private hospital pharmacies) and to use electronic case-reporting tools—for example, Sistem Informasi Tuberkulosis Terintegrasi (SITT), the Integrated Tuberculosis Information System, or the new WiFi TB app (described below)—has typically, though not inevitably, been tied to participation in one of these training or certification programs. However, funding for private provider outreach and training programs has been intermittent, the training programs have not been institutionalized, and they have struggled to reach scale. This, in turn, has hampered enforcement of regulatory approaches, as it is not reasonable to demand compliance with a requirement to take a training course if that course is not generally available.

The NTP's objectives from its most recent (2016–2020) national strategic plan include ensuring that the "treatment success rate in hospitals, private & public facilities reaches 90% in 2019." This is supported by the strategic plan's prioritization of the improvement of TB services through public-private mix (PPM), which is defined as "involvement of all providers, public and private, in expanding TB care and sustainability of TB care comprehensively under coordination from District Health Authority." It emphasizes collaboration, whether through public-public, public-private, or private-private partnerships, and includes a wide set of actors, including public facilities reporting to Dinas Kesehatan (the district or provincial health authority), private for-profit and not-for-profit health care providers, community nongovernmental organizations (NGOs), military health care providers, and professional associations. Notably, however, the current strategic plan does not include specific targets for private provider case notifications or referrals. The indicators related to PPM at a national and provincial level focus primarily on inputs, such as the share of districts with a PPM team and the budget for PPM activities. At a district level, the PPM-focused indicators, for example the number of professional associations involved in PPM, are primarily activity based. Some districts have indicators (for example, the share of facilities that implement standard-quality TB care) focused on private provider practices, but given the difficulty of capturing even the number of private provider TB cases, it is unclear how these indicators will be measured.

Most recently, NTP has proposed an ambitious effort to engage private providers through district and sub-district PPM. This model assigns TB focal points in Pusat Kesehatan Masyarakat (Puskesmas), or public health centers, at the sub-district level to play a central oversight role at the sub-district level, focused on networking with and increasing case reporting from GPs and clinics, as well as monitoring and following up on care with patients and providers. This is enabled by WiFi TB, a simplified mobile reporting app, which has already been piloted under CTB and will be made available to private providers. Puskesmas would be supported by local coalitions including such stakeholders as the government health authority and professional associations to ensure quality DOTS provision, as well as sustainability and consistency of treatment. The model also recommends having networks in private facilities that coordinate relevant units in the health care provider. This coordination would be led by a DOTS unit that would then be the locus for all TB-related issues in a given facility. Implementation of sub-district PPM would be supported in part by allocating one-third of Indonesia's catalytic funding provided by the GFATM to accelerate the country's efforts to identify missing cases, especially in the private sector.

Indonesia has a particular opportunity to influence private sector behaviors at this point in time, owing to the growth of JKN, which was launched in 2014 and aims to provide universal health coverage for all Indonesians by 2019. Approximately 70% of the population is already enrolled in JKN. JKN's policies and reimbursement mechanisms create incentives that can drive patient and provider behaviors across the otherwise decentralized health care system. However, overall expenditure on JKN is limited by government finances, the proportion of patient-financed enrollments, and premiums. Currently, only 40% of JKN enrollees are self-financed. This means that changes to policies that result in additional cost can only partially be offset by increased premiums—even if that were palatable. In addition, the reach of incentives created by JKN policies is constrained by the number of private physicians contracted to participate in JKN. BPJS-K has made good progress in contracting with more than 1,000 secondary and tertiary facilities and nearly 10,000 private primary care providers—about two-thirds of private hospitals and one in ten registered general physicians who are in private practice. However, there is still room to grow, especially among private general practitioners (GPs), as well as beginning to engage the participation of private laboratories and pharmacies.

2. Objectives and approach of this review

In this context and in support of the NTP's strategic objectives around PPM, the USAID commissioned this review to supplement existing evidence on private sector TB care in Indonesia. The goal was to deepen the understanding of private patient and provider behaviors and motivations and to identify solutions that would align with these realities and improve health outcomes for TB patients who receive care from private providers most effectively.

Given the emphasis on understanding behaviors and motivations, the review aimed to take an end user focus to ensure that solutions identified could drive behavior change more effectively. However, it was not designed to provide a representative view of private provider TB care or to address the substantial number of patients who are treated in public health care facilities.

Another specific objective of the review, given the historically limited focus on this perspective and the opportunity presented by the expansion of BPJS-K, was to use a private sector lens to identify market-driven solutions. The review focused also on feasible and scalable solutions for which the Government of Indonesia could take ownership. However, the endpoint of this review was the identification of a set of high-level solution options. Detail on potential solutions is provided where the information gathered in this review can provide additional insight. Still, further analysis and consultation will be required to fully assess and detail solutions.

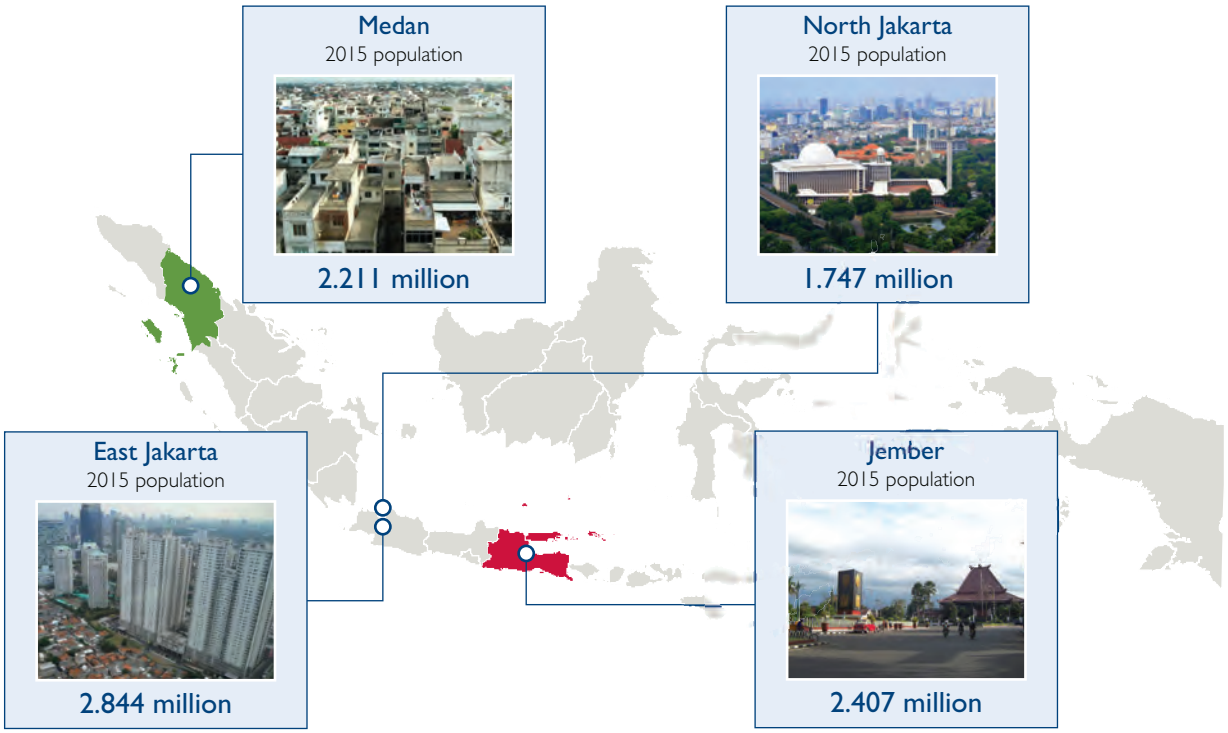
The remainder of this report describes the objectives and approach of the review, details the key findings, and discusses potential solutions for improving private providers' TB care. This section lays out the review's approach, which incorporated both consumer research methods and human-centered design techniques to develop insights on patient and provider behaviors. It builds on existing research on TB in Indonesia, especially in the private sector, and incorporates the current policy framework around TB.

Following this overview, Sections 3 through 7 address findings on the characteristics of patient and provider interviewees, private physician perspectives on TB guidelines and programming, BPJS-K participation, typical patient pathways, and opportunities related to each step of the patient pathway. In Section 7, findings on key opportunities are accompanied by a summary of solutions suggested during the review by interviewees and stakeholders. Potential solutions related to each opportunity are then further analyzed and discussed. The report finishes with an overall discussion of the key themes that emerged from this review in Section 8 and concluding remarks on the path forward for private TB care in Indonesia in Section 9.

2.1 Geographic focus

This review focused on four districts: Medan in North Sumatera; North Jakarta and East Jakarta in the special capital region, Daerah Khusus Ibukota (DKI) Jakarta; and Jember in East Java. These were selected from the districts in USAID's Country Development Cooperation Strategy for Indonesia. They were chosen also to provide a mix of urban and periurban districts with large low-income populations across multiple provinces. Finally, districts were assessed for a high number of private providers relative to the population size and low case notification rates. (See Exhibit 2.)

Exhibit 2: The Geographic Focus of the Review



	Medan	North Jakarta	East Jakarta	Jember
Province	North Sumatera	DKI Jakarta	DKI Jakarta	East Java
District type[24]	Kota	Kota	Kota	Kabupaten
Population (millions)[25]	2.229	1.765	2.869	2.353
Share of the population in an urban area (%)[26]	100	100	100	43.6
Share of the 2015 population below the poverty line (%)[27]	9.41	5.91	3.24	11.22
Average monthly household expenditure (IDR millions)[28]	4.554	7.771	5.972	2.047
Number of notified TB cases[29]	6,369	2,933	9,664	3,153
Number of estimated TB cases (%)[30]	10,580	6,457	9,772	7,637
Share of estimated notified TB cases (%)	60	45	99	41
Population per private hospital[31]	37,468	91,964	105,327	343,874

Source: Badan Pusat Statistik (Statistics Indonesia), 2015.

2.2 Approach

This review was undertaken in four stages: landscape review, qualitative fieldwork, solution development, and socialization. Each stage is described below.

2.2.1 Landscape review

An initial landscape review was conducted to ensure that the review was informed by an understanding of existing literature and stakeholder perspectives. It consisted of desk reviews across three areas:

- **Academic Literature.** This included literature on the role of the private sector in health care delivery in developing countries more broadly and the current state of private sector TB treatment in Indonesia specifically. Literature was identified using a keyword search on Google Scholar.

- **Indonesian Policies.** Relevant policies from the NTP, MoH, and JKN and BPJS-K were reviewed to gain an understanding of the policy framework in which TB care is delivered. There was a specific focus here on documenting BPJS-K policies and mapping the flow of payments under different scenarios. Indonesian-language documents were reviewed by native speakers of Bahasa.

- **PPM Programs.** A variety of documents were reviewed to gain an understanding of past efforts to engage private providers, including earlier grant documents from the GFATM, public information provided by community organizations and professional associations involved in the fight against TB, and public reports from USAID implementing partners, such as CTB.

This document review was supplemented by interviews with a set of local and national stakeholders, including, the NTP, BPJS-K, the Stop TB Partnership, the World Bank, the vice chair of the GFATM's Country Coordinating Mechanism, the Promoting Quality of Medicines program, the Perkumpulan Pemberantasan Tuberkulosis Indonesia (Indonesian Association Against Tuberculosis), KNCV Indonesia, a number of professional provider associations[32], and two local NGOs involved in TB programs in Jakarta and Medan.[33] In addition, the review team conducted initial interviews with ten private health care providers based in Jakarta, including seven physicians (GPs and pulmonologists), two pharmacy managers, and one laboratory administrator.

2.2.2 Qualitative fieldwork

Qualitative work with private providers and patients in the field formed the heart of this review. Private providers included private pharmacies and laboratories as well as physicians. Fieldwork included two primary components: structured interviews and focus group discussions. The structured interviews were designed to elicit insights on patient and provider behaviors, and the focus groups provided opportunities to dig deeper into the motivations and incentives underlying behaviors. The goals of both aspects of fieldwork were to identify what is working well in the current situation and challenges that could undermine patient or public health outcomes and to understand what dynamics would need to change to address challenges.

2.2.2.1 Structured interviews

The review team collaborated with a local Indonesian research firm to conduct structured interviews with patients and private health care providers in each district.

Patients were identified through a mix of exit interviews at private hospitals (30%), knocking on doors (50% to 55%), and "snowball" recruiting (15% to 20%). To identify hospital patients, recruiters selected at least three private hospitals in each district and chose hospitals that accept patients with national health insurance and those that do not. To identify areas for knocking on doors, the research team first mapped sub-districts with low socioeconomic status and high population density in order to focus on areas most likely to have a high concentration of TB patients. Among the sub-districts identified, a random sample of sub-districts and residences were selected for knocking on doors. There was knocking on doors also in areas surrounding patients identified through snowball recruiting. Patients who were identified in this way were referred by a doctor, another patient, or, in Jember and Medan, local village leaders. Among the 15% to 20% of patients recruited through snowball recruiting, 20% to 30% were identified through referrals initiated in a private hospital—a total of 6 to 12 interviewees. It is likely that snowball recruiting can bias the identification of interviewees toward patients treated in a large facility: it is common for an interviewee to meet another TB patient while waiting in line for treatment. Given these recruitment tactics, it is reasonable to expect that up to 70% of our interviewees would be treated for TB at a private hospital (compared with 50% of private sector TB patients selected as part of a random sample in the 2013–2014 National Tuberculosis Prevalence Survey (NPS).[34]

Patients were selected to participate in an interview if they had been diagnosed with TB within the previous 18 months and had received some aspect of care from a private provider. Although the patients interviewed were not intended to be a representative sample, recruiters did look for a mix of genders, income levels, and extent of care received from private providers. Overall, 204 patients

were interviewed: 50 in each district except North Jakarta, where 54 patients were interviewed.

Private provider interviews comprised three groups: physicians, laboratories, and pharmacies. Physicians included a mix of GPs, pulmonologists, and internists. Physicians were recruited by first identifying private hospitals and private practices operating in each district. Private hospitals were selected randomly from a list of all private hospitals in each district. Because data on private practices and clinics is limited, these interviewees were identified on the basis of referrals from physicians interviewed and patients. Practicing physicians in each hospital and practice were contacted and screened for eligibility. Physicians who reported seeing at least one new TB patient per week on average were invited to participate in the interview process.[35] Like the patient sample, this was not intended to be representative, but effort was made to interview a mix of physicians who contract with BPJS-K and those who do not; a mix of GPs, internists, and pulmonologists; and physicians serving different income levels. Physicians were also recruited from both private hospitals and private primary care practices, although all of the physicians recruited from primary care settings also practice in private hospitals. Thirty-eight percent of the physicians interviewed work in multiple locations, either on different days or switching between facilities during a single day. (For more details, see Section 3.2.)

Private laboratories were identified by canvassing labs within a five-kilometer catchment area surrounding private hospitals in each district. Laboratory administrators were eligible for interview if their lab referred at least one smear microscopy test in an average week.[36] Recruiters sought a mix of labs that are part of a chain, independent labs, and labs in hospitals. Meanwhile, pharmacists were selected from sub-districts representing a mix of low- to high-income areas. Pharmacists were eligible for interview if they dispensed TB drugs at least once a month. The mix of chain and independent pharmacies recruited included some located within private hospitals or clinics. Mom-and-pop drug shops were not included owing to the challenges of identifying an acceptable sample: there is, for example, no available overall mapping of drug shops, and it is unknown whether every drug shop carries TB drugs or has an associated pharmacist.

Overall, 395 private providers were interviewed across all four districts. The breakdown of interviewees by provider type and district is provided below. (See Exhibit 3.) It was particularly challenging to identify private laboratories in Jember, as well as pulmonologists and internists practicing in the private sector.

Interviews were conducted in person by native Bahasa speakers. Each interview was structured to include a similar set of overall questions and answer choices designed to follow a typical patient journey, but respondents were also given numerous opportunities to provide "free response" answers. These responses were coded in Bahasa by the Indonesian interview team.

2.2.2.2 Focus group discussions

As a follow-up to the structured interviews, the review team conducted a series of focus group discussions with patients and providers with the goal of learning more about specific motivations behind patient and provider behaviors. One patient focus group and one provider focus group were held in each district. Each focus group included 10 to 12 participants, was held in the office of a local partner, and was conducted by a trained Indonesian facilitator in Bahasa. All focus group participants were selected on a first-available basis from among participants in the structured interviews. All patients selected to participate had been in TB treatment for at least one month.

The provider focus groups were structured to encourage an exchange of ideas and experiences across different types of private providers. They included a mix of GPs, internists, pulmonologists, and laboratory managers.

Exhibit 3: Private Providers Were Interviewed in All Four Districts

District	Physicians			Laboratories	Pharmacies
	GPs	*Pulmonologists*	*Internists*		
Medan	30	16	14	30	30
North Jakarta	30	15	5	15	30
East Jakarta	30	16	14	20	30
Jember	30	2	3	5	30

Physicians also represented providers who accept BPJS-K patients and those who do not. In all districts except East Jakarta, participants included physicians who work in private hospitals and in private clinics. All the participating physicians in East Jakarta worked in a private hospital. In North Jakarta and Medan, representatives of community organizations that implement TB programs were also included.

In addition to conducting the structured interviews and focus group discussions, the review team conducted a supplemental set of field activities, which included visits to private pharmacies by an Indonesian team member who used a "standardized customer scenario" focused on testing pharmacist referral and drug dispensary behaviors. It also included individual interviews with private pediatricians and private hospital administrators in North Jakarta, East Jakarta, and Medan.[37]

2.2.3 Solution development using human-centered design techniques

The qualitative fieldwork described above was intended to identify dynamics and incentives that affect patient and provider behaviors in the private sector and diminish patient or public health outcomes. As these challenges and dynamics were identified, patients, providers, and other stakeholders were asked to help ideate solutions that could result in better outcomes. This was a critical aspect of the review: it engaged the people most affected by tuberculosis and those most likely to interact with a new TB program or policy in the identification of potential solutions.

Solution ideation was built into the patient and provider focus group discussions described above. Patients were asked to discuss factors that could have improved their experience with tuberculosis care and were prompted to respond to a set of possible interventions. Providers participated in a set of exercises designed to elicit creative ideas. Small groups of providers were asked to generate as many possible solutions as they could. After reporting back to the full group, each participant was asked to vote for one idea that he or she would prioritize for immediate exploration and one innovative idea that might be a long-term possibility that merited further exploration. Providers were asked to discuss and expand on these ideas, as well as other potential solutions that were raised in earlier meetings.

In addition, stakeholders from the NTP, provincial and district Dinas Kesehatan (health officials), and other stakeholders, such as professional associations, WHO, and CTB, participated in a similar set of exercises as those conducted with providers.

2.2.4 Socialization

Throughout this effort, the review team engaged closely with the NTP and representatives from local and provincial health authorities who were responsible for focus districts, aiming to ensure that findings were placed in a local context and to test whether the solutions under consideration would be feasible and sustainable and could build on existing structures. The effort included an initial workshop for gathering input on the review's design and perspectives on private provider engagement and for generating initial solution ideas as described above. In each province and district, after conducting the qualitative fieldwork, the review team held a follow-up meeting with the government health authority to discuss the results. A final workshop was then held with stakeholders such as NTP and Dinkes representatives to socialize the overall findings of the review and discuss possible interventions and the next steps on private provider engagement. Further socialization was undertaken at a variety of stakeholder meetings, including with a coalition of professional association representatives, representatives from a wide variety of district-level Dinkes offices (as part of a larger rollout of the new district-based PPM model), and the GFATM.

3. Findings: Patient and provider characteristics

The findings of this review are substantially based on the results of the structured interviews and focus groups with private TB patients and providers as described above. The participants were chosen to provide a breadth of perspectives and to include a range of demographic groups. However, because the participants do not constitute a representative sample, it is important to review the profile of patients and providers interviewed.

3.1 Patient characteristics

Of the 204 patients interviewed, 51% were male and 49% were female; 76% of the patients were between 30 and 55 years old; 79% were married with children; 73% reported household expenditures between IDR 2 million to IDR 5 million per month, placing them in the middle class for Indonesia; 45% had smoked at some point in their life, but only 19% reported currently smoking; and 74% reported that they do not suffer from other health conditions such as diabetes or heart disease. Aside from TB, the health issue most commonly reported was high blood pressure—14%.

In addition, 90% of patients interviewed were the first in their immediate family to contract TB, and only 8% reported that another family member has TB; 74% were first-time TB patients; and 59% were currently undergoing treatment; 85% were enrolled in the national health insurance scheme (higher than the 70% national average, which is not surprising given the interviewees' concentration in urban and periurban areas). (See Exhibit 4.)

Exhibit 4: Characteristics of Patients Interviewed and District Variations

Share of participants (%)	All patients	North Jakarta	East Jakarta	Jember	Medan
Gender					
Male	51	43	40	60	64
Female	49	57	60	40	36
Age					
< 30 years old	18	28	12	4	28
30–55 years old	76	70	84	84	66
> 55 years old	6	2	4	12	16

Share of participants (%)	All patients	North Jakarta	East Jakarta	Jember	Medan
Marital status					
Not married	15	19	12	4	28
Married, with children	79	9	2	0	6
Married, no children	4	72	86	96	64
Divorced	<1	0	0	0	2
Monthly household expenditure					
< IDR 1.5 million	10	4	18	6	14
IDR 1.5 million–IDR 2 million	12	2	4	20	24
IDR 2 million–IDR 3 million	42	48	34	44	42
IDR 3 million–IDR 5 million	31	35	42	28	20
> IDR 5 million	4	11	2	2	0
Ever smoked					
Yes	45	56	41	16	68
No	55	44	59	84	32
Currently smoke					
Yes	19	22	12	6	36
No	81	78	88	94	64
Other health conditions					
High blood pressure	14	15	15	6	20
Diabetes	6	6	6	6	8
Back pain	5	11	2	4	4
Heart condition	2	2	2	0	4
None	74	69	76	84	66
First family member with TB					
Yes	90	91	86	92	90
No	10	9	14	8	10
Others in the family with TB					
Yes	8	9	12	0	12
No	92	91	88	100	88
TB history					
First diagnosis	74	74	86	74	62
Relapse	26	26	14	26	38
TB treatment					
Currently being treated	59	61	82	56	36
Not currently being treated	41	39	18	44	64
Enrolled in JKN					
Yes	85	85	84	78	94
No	15	15	16	22	6

3.2 Physician characteristics

This review included three physician types in the interviews and focus group discussions: 120 GPs, 36 internists, and 49 pulmonologists. Each interviewee was asked to identify himself or herself as a GP (which requires an undergraduate medical degree only), a specialist in internal medicine, or a specialist in pulmonology (both of which which require additional postgraduate training).[38]

Among the GPs interviewed, the average length of practice was eight years, and 68% had been practicing for fewer than ten years. All the GPs spent at least some of their time practicing in a private hospital and, for 64% of them, a private hospital was the only place of practice. In focus group discussions, the participating GPs who worked in private hospitals were located either in the hospital's emergency room or in a hospital clinic. Since the majority of GPs were compensated as BPJS-K secondary care providers, it seems that this reflected substantive, financial relationships between GPs and private hospitals—that is, the GPs were not simply colocating and paying rent to the hospital while operating independently. (See Section 5.2 for more detail.) In addition, it is worth noting that BPJS-K classifies small Class D hospitals as primary care facilities. 91% of the GPs interviewed who were working in a hospital were located in a facility with an in-house lab capable of conducting TB tests, and 57% also reported having an in-house pharmacy. Among the 36% of GPs who were not solely in private hospital practice, 84% also practiced in a private clinic, and 16% also worked in a not-for-profit hospital. Dual practice is common among physicians in Indonesia, but there is little data about dual practice of physicians who work entirely in the private sector. It is surprising, however, that few of the GPs interviewed also practiced in the public sector: prior research estimated that 70% of physicians employed in Puskesmas are in private practice.[39] GPs reported seeing 316 patients per month on average, of which 6 to 10 were new and continuing TB patients.[40] In order to qualify for an interview, GPs had to see at least one new TB patient per week.

The average length of practice for the internists interviewed was 12 years, with 44% practicing for fewer than 10 years and 19% for 20 or more years. Pulmonologists followed a similar pattern: their length of practice averaged 12 years, 37% had been practicing for fewer than 10 years, and 14%, 20 or more years. Like the GPs, all of the internists and pulmonologists interviewed were practicing in private hospitals for at least some of their time. In addition, 22% of internists also practiced in public hospitals, and 28% also practiced in a private clinic. Pulmonologists followed a similar pattern: 14% of internists and 8% of pulmonologists reported practicing in three different locations (compared with only 2% of the GPs interviewed). Like GPs, dual practice among Indonesia's internists and pulmonologists is common. Although recent data on dual practice in the private sector was not available, one recent study indicated that virtually all public sector specialists engage in dual practice.[41] 83% of internists and 88% of pulmonologists interviewed reported working in a facility with an in-house lab for TB testing, and 61% of internists and 65% of pulmonologists interviewed worked in a facility with an in-house pharmacy. The average number of patients per month was 443 for internists (with the 25th to 75th percentile ranging from 300 to 500) and 306 for pulmonologists (with the 25th to 75th percentile ranging from 150 to 400). For internists, 8 to 15 of these were TB patients, while pulmonologists reported seeing 10 to 50 TB patients per month.[42] Internists and pulmonologists were required to see at least one new TB patient in an average week to qualify for an interview. (See Exhibit 5.)

3.3 Laboratory characteristics

Among the 70 private lab managers interviewed, the average tenure in the pathology field was ten years, with nine years at their current lab. About half—51%—of the labs represented were independent private labs, 24% were part of a chain of private labs, and 24% were labs inside private hospitals. On average, lab managers reported that the lab had a total of 15 to 20 employees, but 10% reported having 40 employees or more. Of these employees, 73% of labs reported having 2 to 4 who are trained to collect samples from patients, and 64% reported having 1 to 3 employees who are trained to conduct tests. The remaining labs had trained a larger number of employees to collect samples and conduct tests. Furthermore, 73% reported having an in-house doctor, typically a pathologist, and 97% of lab managers reported having a microscope and 86%, x-ray equipment. The managers interviewed from independent and hospital labs reported that their lab sees about 450 patients per week on average, while interviewees from chain labs reported about 250 patients per week on average. However, the range was quite wide, with some labs reporting as few as 25 to 50 patients per week and others reporting more than 1,000. Across the different types of labs, 16 to 18 patients per week were seen for TB testing on average.

3.4 Pharmacy characteristics

Interviews were conducted with the primary pharmacist of each of the stores, all of which were licensed pharmacies.

Exhibit 5: Key Characteristics of the Physicians Interviewed

Share of the total (%)	GPs	Internists	Pulmonologists
Length of practice			
0–4 years	22	8	4
5–9 years	46	36	33
10–14 years	20	22	33
15-19 years	7	14	16
20 or more years	6	19	14
Location of practice			
Private hospital only	64	64	55
Private and public hospital	0	8	20
Private and non-profit hospital	5	0	0
Private hospital and clinic	28	14	16
Private and public hospital, private clinic	1	14	8
Other[43]	2	0	1
Available facilities			
In-house lab; able to conduct TB tests	37	25	31
In-house pharmacy	3	3	8
Both in-house lab and pharmacy	54	58	57
Neither in-house lab nor pharmacy	6	14	4
Average patients per month	**316**	**443**	**306**
TB patients per month (25th–75th percentile)	**6–10**	**8–15**	**10– 50**

Interviewees had practiced as a pharmacist for seven years on average, and two-thirds reported five to ten years of experience. 87% reported having earned a bachelor's degree in pharmacy. The pharmacies where they work are both standalone independent pharmacies (78%) and pharmacies that are part of a larger chain (22%). (As noted above, informal drug shops were excluded from the sample.) 88% of the pharmacies have fewer than ten staff members and in 92% of the pharmacies, only one or two staff members are pharmacists. On average, pharmacists reported that out of roughly 2,400 to 3,200 total customers per week, only 1 or 2 buy TB medicines.[44] However, 23% reported three or more people buying TB medicines each week, and 78% reported seeing customers with TB symptoms at least once a week.

4. Findings: Private physicians' perspective on TB guidelines and programming

In addition to questions about their practice and patient flow, the private physicians interviewed were asked about their exposure to MoH guidelines and PPM programming: 68% of GPs, 69% of internists, and 80% of pulmonologists said that they are aware of national guidelines regarding TB, and another 18% to 25% reported that they are at least somewhat aware. The same or a higher proportion of private physicians said that their peers are aware of national TB guidelines. Private physicians generally believe that other private physicians follow national guidelines, though 23% of GPs, 17% of internists, and 20% of pulmonologists said that their peers only somewhat comply with guidelines. In focus group discussions, physicians typically cited clinical considerations that would prompt them to deviate from recommended practices. For example, a patient's inability to produce sputum might lead to changing the diagnostic used, and side effects might mean having to alter the medication or dosage prescribed.

In addition to being aware of national guidelines, private physicians are generally aware that TB programs and interventions exist, but few had participated in them. When asked about their awareness and participation in broad categories of TB programs—for example, programs to help find TB cases or educate health care providers about TB—78% of GPs, 83% of internists, and 92% of pulmonologists said that they are aware of such programs. However, only 15% of GPs and 33% of internists claimed to have participated in such a program. That this proportion was much higher among pulmonologists (65%) is not surprising given the past collaboration between CTB and PDPI to engage pulmonologists and private hospitals on public-private mix programs in the four districts where this review was conducted. Likewise, when private physicians were asked whether they had received any kind of professional certification on TB or DOTS, 93% of GPs, 92% of internists, and 98% of pulmonologists claimed to be aware that these certifications exist. However, only 8% of GPs and 22% of internists and pulmonologists reported receiving such a certification. While these rates are relatively low, they are actually higher than might be expected given the total number of physicians trained through programs delivered by professional associations. This may be a result of recruitment in provinces that have priority in USAID's CTB program. It may also be that physicians who are more likely to participate in these programs are also more likely to volunteer to participate in a TB-focused interview.

However, when pulmonologists were asked about the effectiveness of the programs in which they had participated, only 50% to 67% rated the effectiveness of these programs as excellent or very good. Some of this may relate to the difficulty of sustainably funding private provider engagement programs. For example, one administrator at a private hospital spoke about her experience trying to implement DOTS in accordance with Dinas Kesehatan requirements to enable the hospital to access government-funded fixed-dose combinations (FDCs). The hospital put a DOTS team in place, and some members of the team received training through a local professional association. However, before the program could be fully implemented, the team's trained GP departed, and there has been no opportunity in the several years since for the new GP to attend a similar training. In some focus group discsusions, the private physicians who attended emphasized that the benefits of the trainings that they did attend were hearing about new practices in TB care and discussing what to do with

certain patient cases. Several physicians and pathologists in attendance did mention the length of trainings, which required them to be away from their practice for several weeks. Another internist in Medan emphasized that he is already trained to handle TB and doesn't need additional certification.

When asked where they get information about advancements and best practices in TB care, physicians named, on average, two or three different sources. Among GPs and internists, the most frequently cited sources of information were discussions with peers, doctors' conferences, and hospital circulars, which were all cited by 44% to 67% of the private physicians interviewed. The private pulmonologists interviewed also cited conferences and peer discussions, but they were much more likely to get information from professional associations than from GPs and internists. For their part, however, 61% of pulmonologists listed a professional association as a source of information, compared with 23% of GPs and 28% of internists. This may also be due to CTB's past support of PDPI to engage private pulmonologists in these districts.

5. Findings: BPJS-K participation

As discussed in Section 3.3, Indonesia has a rapidly growing national health insurance system that has now enrolled nearly 70% of the population and has contracted with a substantial number of private hospitals and other private practices. Given the likelihood that BPJS-K coverage and payment policies will affect how patients and private providers make decisions about TB care, this review explored how BPJS-K interacts with patients and providers in the private sector, as well as the extent to which interviewees participate in BPJS-K.

5.1 Patient Participation in BPJS-K

For enrolled patients, BPJS-K provides coverage for medical consultations, examinations, and treatment in both primary and advanced (hospital or specialist) care if the physician or facility is under contract to BPJS-K. The coverage amount is standard for outpatient visits but varies by class of coverage for inpatient care. Patients select a primary care provider when they enroll in BPJS-K and are permitted to change this provider once every three months at most. Health care services provided in a hospital or by a specialist should be accessed only with a referral from the patient's primary care provider.[45] Among the patients and providers interviewed for this review, the referral requirement for hospital or specialist care seemed to be followed consistently. In cases of emergency, however, patients are permitted to visit an emergency care facility at a hospital without a referral.[46] The patients and providers interviewed for this review indicated that TB patients will often present to a hospital emergency facility, at which point they are quickly referred to an in-house specialist.

Diagnostic tests and drugs should also be covered by BPJS-K.[47] However, all private laboratories and most private pharmacies are not yet under contract to the national health insurance system and therefore cannot be reimbursed directly for providing tests or medication to BPJS-K enrollees.[48, 49] There seems to be an intention that services at private labs and pharmacies should be paid from a referring private primary care provider's monthly capitation payment if they are under contract to BPJS-K. It is not clear, however, how this payment is supposed to be made, and payments of this kind were not observed in this review. In addition, because TB drugs are financed by the Government of Indonesia and distributed through the public health care system, there is an expectation that TB patients will obtain their drugs through a Puskesmas rather than in the private sector, although there is still a large private market for TB drugs.[50]

Among the patients interviewed for this review, 85% were enrolled in BPJS-K. This is higher than the national average, but this might be expected given that the patients interviewed in this review currently require or recently required medical care (possibly a motivating factor for enrolling in BPJS-K) and were largely concentrated in urban areas. Interviewees with BPJS-K coverage rarely visit health care providers who are not contracted to BPJS-K. Only 5% reported doing so more than once in six months. It is clear that patients understood what was required in order for BPJS-K to cover their health care. A patient in Jember commented, "The reason I don't pay one cent for my TB treatment is because I follow the BPJS policy." This was echoed by a North Jakarta patient who said, "You should only visit registered providers to get your treatment covered."

Among patients with BPJS-K coverage, 96% reported using it to pay for their TB care, 85% reported that BPJS-K covered their diagnostic tests, and 92% reported that it also covered their TB medication. Only 3% paid for any portion of their physician consultations out-of-pocket, while 14% reported making out-of-pocket payment for some or all of their TB diagnostics, and 7% reported making out-of-pocket payment for TB medication. Note that these figures may be high because the patient sample overrepresents clients of private hospitals, where such services are more readily reimbursable. Indeed, BPJS-K patients who were currently undergoing treatment in private clinics were much more likely to report out-of-pocket payment for some or all of their TB drugs (57%) than were BPJS-K patients undergoing treatment in private hospitals (8%), although the number of patients undergoing private clinic treatment was very small. (See Section 5.2.) A similar pattern was true for diagnostics: 29% of BPJS-K patients being treated in a private clinic made out-of-pocket payment for a portion of their diagnostics, compared with 23% of patients being treated in a private hospital.

5.2 Private provider participation in BPJS-K

As noted in Section 1, more than 1,000 private secondary and tertiary facilities and nearly 10,000 private primary care providers—about two-thirds of private hospitals and 10% of private primary care providers—are currently under contract to BPJS-K. For facilities or practices under contract to BPJS-K, there are two primary payment mechanisms: capitation and Indonesian Case Base Groups (INA-CBG) claims.[51] Services provided in a Class D hospital, any other clinic, a Puskesmas, or an independent private practice are designated as primary care and are compensated through monthly capitation payments. The amount of such a payment is based on the number of patients registered with the provider, the total number of doctors in the practice, the ratio of doctors to BPJS-K members for that practice, and the practice's service hours. This payment is further adjusted to reflect performance targets, including the proportion of registered BPJS-K members who make contact with the primary care provider, the proportion of nonspecialist referrals, and the ratio of patients with chronic disease.

Class A, B, and C hospitals are designated as advanced care facilities and are reimbursed through INA-CBG claims, as are clinics included on BPJS-K's list of advanced care facilities. Advanced care providers receive a bundled payment through the INA-CBG system. This payment is based on the services provided and is calculated across the average historical cost of similar services. Of note, only certain diagnostic tests can be reimbursed separately from the bundled consultation payment under INA-CBG. For example, chest x-rays can be claimed separately, but sputum smear tests cannot. Private hospitals and advanced care clinics submit claims to BPJS-K, where they are verified for compliance before reimbursement.

Given the prevalence of dual practice, it is worth noting how BPJS-K payment mechanisms do or do not change in relation to a physician's location of practice. The method of payment is set not on the basis of the provider's qualifications but on the health facility's classification according to BPJS-K. For example, if a GP works in the emergency room at a Class B private hospital as well as at a primary care clinic outside a hospital, both of which are contracted to BPJS-K, payments flow differently on the basis of the physician's location of practice. The private hospital can claim reimbursement for services provided through the INA-CBG system and separately compensate the GP, who typically receives either a portion of the reimbursement as payment for services he or she provides or a fixed salary. The hospital bears the working capital burden associated with the delay between claims being submitted and reimbursement being made by BPJS-K. Meanwhile, if the same GP also operates a private clinic, he or she receives a capitation payment on the basis of the number of BPJS-K members registered with that clinic and other factors discussed above. For a specialist, BPJS-K payments for advanced care are made entirely through the INA-CBG system, regardless of whether the specialist is operating in a hospital or in a smaller advanced care clinic. The primary difference is whether or not the payments flow through the hospital administration before the specialist is compensated. Specialists working in hospitals may also be compensated by the hospital on the basis of services performed, for example, through a portion of the INA-CBG payment, a fixed salary, or a combination of the two. The extent to which specialists (and GPs) in hospitals are compensated on the basis of INA-CBG reimbursement for services performed affects the degree to which changes in BPJS-K reimbursement policies directly incentivize physician behaviors. If physicians are compensated by hospitals entirely through a fixed salary, changes to BPJS-K policy will primarily affect incentives for hospital administrators, who must then translate these incentives into hospital operating procedures in order to affect physician behaviors.

Among the physicians interviewed for this review, 73% of GPs, 83% of internists, and 73% of pulmonologists reported that their primary practice location was under contract to BPJS-K. This is higher than expected, especially for GPs, in light of the proportion of private providers contracted to BPJS-K nationally. However—given the urban focus of this review and the proportion of GPs interviewed who practice in private hospitals, which are

more likely than private clinics or private practices to be contracted to BPJS-K—this is not unexpected. Of the GPs who reported being under contract to BPJS-K, 44% said they had contracted as primary care providers and 56% as secondary care providers. Among internists, 40% had contracted as primary care providers and 60% as secondary care providers. And 25% of pulmonologists reported having contracted as primary care providers and 75% as secondary care providers. It is possible that the internists and pulmonologists who reported having contracted as primary care providers are, in fact, practicing at Class D hospitals, which are considered primary care for BPJS-K purposes. They may also have misunderstood the question being posed.

As noted above, unless they were housed within a private hospital or clinic that contracted with BPJS-K, few private pharmacies and no private labs could be identified as under contract to BPJS-K. Among the pharmacists interviewed for this review, 80% reported that customers covered all TB prescriptions with out-of-pocket payment; 17% reported that TB prescriptions were covered partially by customers' out-of-pocket payment and partially by BPJS-K. Some of these pharmacies are likely located in private hospitals that are under contract to BPJS-K, and medications for BPJS-K patients are covered by the hospital out of the INA-CBG payment. Others may participate in the Program Rujuk Balik with BPJS-K, which reimburses private pharmacies for medications associated with certain chronic conditions. (See footnote 52.) This program is not supposed to cover TB medications. However, it may be that some do get reimbursed if claims are not verified properly or if a patient's prescription includes other medications that are covered, such as those for treating diabetes.

Among the private lab managers interviewed, 49% indicated that at least some of their patients had BPJS-K coverage. Of that 49%, 85% were managers of labs in private hospitals or clinics that might be under contract to BPJS-K. Of the remaining 15% (six interviewees), all were located next to a public hospital, Puskesmas, or private hospital. It is possible that some were actually affiliated with that facility and that the larger facility was under BPJS-K contract. It might also have been that interviewees were trying to estimate patients' BPJS-K coverage, even if it was not being used. Finally, it might have been that a few private labs had independently been under contract to BPJS-K, but that this information was not available from the BPJS-K website or call center (though it is for other types of health care providers).

6. Findings: The private sector TB patient journey

Interviews and discussions with private sector TB patients and providers brought to light both the great variety of patient experience and some clear commonalities. This section describes common journeys of the private sector TB patients interviewed for this review.

The TB patient journey can be described in four phases:

- **Initial Care-Seeking.** When a person first notices the symptoms of TB—depending on the individual and the severity of the symptoms—attempting to seek care can mean purchasing symptom-relieving medications at a pharmacy, visiting a primary care provider, or visiting a hospital emergency room. During this early phase, the patient may visit multiple providers and may be diagnosed or started on treatments for something other than TB.

- **TB Diagnosis.** A patient who reaches a physician for TB diagnosis can undergo various diagnostic tests in addition to a clinical examination. Some patients may need to visit a separate laboratory prior to diagnosis. During this phase, physicians should submit case notification to the MoH.

- **Initial TB Treatment.** Following diagnosis, a patient is informed about his or her treatment, placed on a drug regimen, obtains TB drugs for the first time, and may be asked to involve a family member or friend to help with the treatment.

- **Ongoing Treatment.** The patient continues treatment, returning to the physician on a regular basis for monitoring, which can include ongoing testing. The patient's drug regimen could be adjusted in response to inadequate progress or severe side effects. Ideally, the patient continues until treatment completion and success is verified by additional testing. In reality, however, many patients default before completing treatment.

The experience of a specific patient varies on the basis of a number of factors including, but not limited to, where the patient initially seeks treatment, whether he or she is referred to another provider, whether he or she has any other conditions—such as HIV coinfection—that affect the TB treatment, and whether the TB is drug sensitive or drug resistant.

The NTP and BPJS-K have prepared TB care technical guidance aimed at informing health care providers under contract to the national health insurance system about how the patient journey should proceed. While the recommended pathway varies depending on patient circumstances, the following is an example of one recommended journey for a patient with uncomplicated, drug-sensitive TB:

- **Initial Care-Seeking.** A person who starts to feel sick visits a private independent GP who is certified to treat TB. The GP examines the patient and suspects that he or she might have TB.

- **Diagnosis.** The GP sends the patient to a Puskesmas, or public primary health care facility, that has the capacity to conduct a microscopic sputum smear examination and that accepts referrals.[52] The patient visits the Puskesmas, provides sputum samples, and returns to the GP. The GP confirms

the diagnosis and records it on the appropriate TB forms, which are reported to the Puskesmas that covers the GP's sub-district.

- **Initial Treatment.** The GP prescribes a drug regimen for the patient, who is eligible to receive free drugs from the MoH. The patient goes to a Puskesmas to obtain the prescribed drug box, returns it to the GP's office, and begins treatment. Alternatively, the patient may go to a private pharmacy to purchase the prescribed TB drugs.[53]

- **Ongoing Treatment.** The patient continues treatment, returning to the physician every month for follow-up visits and to pick up additional medication. At the second or third month, the fifth month, and the sixth month of treatment, the patient is again referred to the Puskesmas for a smear microscopy test to help the physician monitor progress until treatment completion and success.

Patients may also be referred to public or private secondary facilities if they have specific comorbidities, such as HIV/AIDS, hepatitis, or diabetes; extrapulmonary TB; or smear-negative pulmonary TB under certain conditions. In a facility not equipped to diagnose children, children may be referred to public or private secondary facilities. Some patients may be referred back to the primary care facility following diagnosis.

While this guidance describes NTP and JKN's preferred patient journey, in practice, this guidance is not always followed and many patients have a different experience. The remainder of this section describes this review's findings related to the patient journey of those seeking TB care from private providers.

6.1 Initial care-seeking at private pharmacies

There is evidence indicating that when people first begin experiencing TB symptoms, a common initial course of action is to visit a private pharmacy. Indonesia's 2013–2014 NPS found that 52% of people with TB first sought care at a private pharmacy, and this is substantiated by several additional studies.[54, 55, 56] The findings from the current review are also consistent with this pattern: more than 90% of pharmacists interviewed reported that at least once a week they see customers with TB symptoms purchasing over-the-counter drugs. Likewise, in focus group discussions, patients consistently discussed visiting a pharmacy for medication to treat their initial TB symptoms. A common sentiment was expressed by a patient in Medan, who said, "For me, when I had a cough, I went to the pharmacy. Then my cough got better, but next came fever and flu symptoms, so I got paracetamol. After a while, an acquaintance told me to go to the clinic." Furthermore, when asked about the percentage of customers buying TB medicines with a doctor's prescription, pharmacists responded that on average only 78% of customers asking for TB drugs come with a prescription. The actual figures range from only 40% of customers who ask for TB drugs bringing a prescription (reported by 7% of pharmacists interviewed) to 100% of customers bringing a prescription (reported by 12% of pharmacists).

6.2 First visit to a physician

Overall, when most patients in this review initially decided to visit a physician, they began at a primary care provider (65%) and most commonly a Puskesmas

NOTE: THE FINDINGS RELATE ONLY TO THE PATIENTS WHO WERE INTERVIEWED FOR THIS REVIEW.

The numbers below are valid only for this specific sample, which has certain biases discussed in Section 4. The numbers should not be cited as a valid portrait of the national situation. They should be understood only as a representation of the convenience sample of this review.

(44%). Most patients who started at a Puskesmas explained their choice by saying it was close to home and covered by BPJS-K. A smaller proportion of patients first saw a GP in private practice or went to a private clinic (21%). These patients also prioritized convenience, choosing the provider on the basis of proximity to home and convenience of getting an appointment. Patients continued to prioritize affordability and were more likely to see a private primary care provider that was covered by BPJS-K. For interviewed patients who visited a secondary care provider first, the secondary care provider was nearly always a private hospital. Patients typically mentioned a recommendation from family and friends or cited the complete facilities and high level of service as their reasons for visiting a private hospital.

6.3 Patients visited multiple providers and often transferred to a private hospital

Of the interviewed patients, 64% reported that over the course of their TB care, they had visited three or more providers, some of which included a private lab or private pharmacy, as well as physicians. This is not unexpected. At least one earlier study of hospital patients in Bandung found that more than 90% had seen more than one provider before being treated at the hospital.[57] However, one surprising finding in the current review was that 79% of patients interviewed were ultimately treated at a private hospital, which is higher even than the up to 70% expected in light of the sample recruitment methods and bias toward private hospitals. Of the patients interviewed, 32% sought treatment directly at a private hospital, while another 42% initially visited a Puskesmas and then transferred to a private hospital. The remainder initially visited a private GP, clinic, or public hospital and later transferred to a private hospital—some reporting visits to multiple providers in the interim.

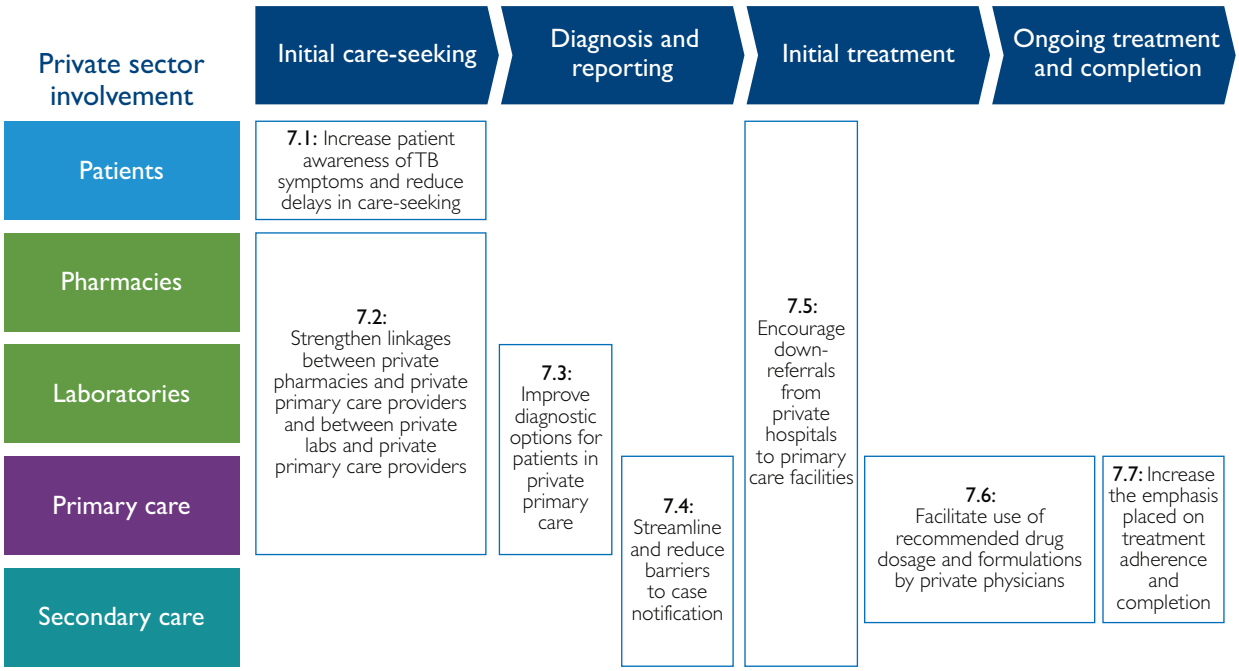
This contrasts with findings from the NPS, which found that 50% of people currently being treated for TB by private providers were receiving that treatment in private hospitals.[58] A great deal of this difference can be explained by this review's patient recruitment approach. As discussed in Section 4, this review included a convenience sample of TB patients rather than a representative group. On the basis of the way recruiting was conducted, it could have been expected that up to 70% of interviewees would be treated in a private hospital. However, this does not fully explain the difference between interviewees in this review and the representative population sampled for the NPS.

Another possibility is related to the timing of the NPS, which occurred in 2013–2014, concurrent with the launch of Indonesia's BPJS-K, (although significant coverage did exist under the predecessor programs to BPJS-K.) At the time of this review, enrollment in BPJS-K had increased to 69% of the Indonesian population and 85% of the patients interviewed for this review. For patients enrolled in BPJS-K, the cost of outpatient private hospital treatment is now equivalent to that of the public sector. Given that diagnostic tests and TB drugs are more likely to be covered by BPJS-K in a hospital's in-house lab or pharmacy, it is likely lower than the cost of visiting a standalone private clinic or private practice. Furthermore, nearly 70% of private hospitals are under contract to BPJS-K, compared with only about 10% of private GPs and clinics. Patients who prefer to avoid a Puskesmas and want to take advantage of their BPJS-K coverage may not have a contracted private primary care provider nearby. The dynamics that can drive patients to private secondary care for TB (discussed in more detail in the following sections) may have resulted in some patients shifting to private hospital care since the NPS was conducted. Thus, although our results are subject to selection bias, they may nevertheless be pointing to a real phenomenon that deserves further study and ongoing monitoring.

7. Findings: Key opportunities in private TB care

On the basis of input from private sector patients and providers, this review surfaced seven key opportunities across different segments of the private sector TB patient journey. These include two opportunities related to initial care-seeking, two related to diagnosis and reporting, and three related to initial and ongoing treatment. Exhibit 6 outlines these opportunities, each of which is further described in the remainder of this section. This includes a summary of the relevant results from this review, as well as discussion of potential solutions to change behaviors and improve patient and public health outcomes. The stages of the patient journey are featured below as illustrative navigators at the top of each page in this section.

Exhibit 6: Stages of the Patient Journey



In reviewing the results in this section, the reader should remember that they reflect the behaviors and motivations of the specific population recruited for this study and described in Section 3. The results are not based on a representative sample.

The solutions in this section are presented in two ways. Solution input generated by such stakeholders as private providers, patients, and government are summarized first and are followed by a discussion of a selection of solution options. The solution options are summarized in a graphic illustration that outlines the solutions to be discussed, arranging them on a spectrum: from more traditional knowledge-building solutions (PPM 1.0) to emerging incentive-based solutions (PPM 2.0). Potential interventions focused on accountability and enforcement of desired behaviors are considered only if there is no other viable option. Each solution is described and some of the benefits and drawbacks are discussed. In order to link possible solutions directly to specific findings and opportunities, they are addressed here as part of a Findings section rather than in a separate discussion section. However, within this section, discussion of possible solutions and considerations associated with each are clearly labeled as such. This section is followed by a broader discussion of cross-cutting themes that emerge from this review.

The endpoint of this review is the identification of a set of high-level solution options that incorporate the stakeholder input that was gathered throughout the review, highlighting the solutions most likely to improve private TB care and some areas in which intervention would be less effective. Detail on possible solutions is provided where the information gathered in this review can provide additional insight. However, further analysis and consultation will be required to fully detail solutions, particularly recommendations related to implementation planning.

The discussion of possible solutions is informed by a set of guiding principles developed with stakeholder input during the socialization workshops described in Section 2. These include the following:

- Solutions and interventions should build on existing systems to ensure ongoing sustainability. They should also consider the possible roles played by different actors in the existing health system.
- Uncomplicated, drug-sensitive TB should be treated at the primary care level. Patients who seek treatment for uncomplicated, drug-sensitive TB at the primary care level should be kept there, with a minimum of out-referrals. Down-referral from secondary care should be encouraged whenever appropriate.
- Guidance for TB care and potential interventions should be patient centric, should be designed around patient preferences, and should work in concert with (not in opposition to) existing incentives where possible. They should be, for example, low cost, discreet, and convenient and should, if desired, allow patients to remain with a private provider.
- Given the timeline and effort required to pilot and implement some interventions, proposed solutions should include a mix of "quick wins" and more transformational interventions.

7.1 Opportunity: Improve patient awareness of TB symptoms and reduce delays in seeking care from a physician

Among patients interviewed, 45% waited four or more weeks after noticing symptoms before visiting a doctor. This is not unique to patients in the private sector. Indeed, the NPS found that, across public and private sectors, less than half of symptomatic TB cases were in treatment or had treatment histories. However, treatment delay can have the secondary effect of increasing hospital-based care, especially among private sector patients—either because sicker patients are more likely to seek care in hospitals or because primary care providers refer to hospitals when symptoms are more severe. Once a TB patient enters a hospital, down-referrals can be more challenging in the private sector: economic incentives encourage private hospitals to keep these patients, and current policies on down-referral are not effectively enforced. (See Section 7.5 for more detail.)

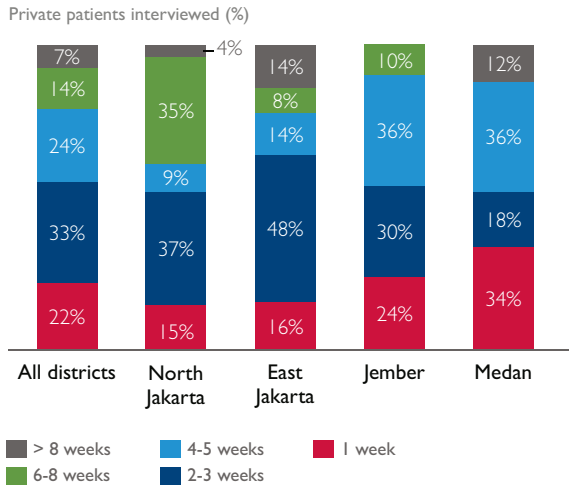
Two distinct drivers are associated with patients' delay in seeking physician care for TB symptoms: lack of knowledge concerning the possible association of specific symptoms with TB and lack of awareness that TB can be cured, which causes fear of diagnosis.

7.1.1 Finding: Patients do not associate their symptoms with TB

Among patients interviewed, only 10% suspected that they might have TB when they first noticed symptoms. Many of the patients thought that they had a less serious disease. For example, one patient said, "Cough is not a serious disease, so when I got a cough, I only bought syrup and didn't visit the doctor." A 100-day cough was one less serious condition that patients frequently mentioned. Because patients did not recognize that their symptoms could mean that they had TB, many of them delayed seeking treatment. In fact, among patients who waited six or more weeks before seeing a doctor, more than 90% said it was because they didn't know that their illness was serious, and two-thirds said that they thought that their health would improve with over-the-counter medication. Patients typically visited a doctor when their symptoms became more severe—for example, increased coughing, a continuous fever for days, and coughing blood—though about half of them also cited a suggestion from a family member or friend as a deciding factor. For example, one patient said, "For me, I had a cough for a week, and I took Mextril [cough syrup] from a small shop. After another one or two weeks, it wasn't getting any better so I visited a clinic." Another patient pointed to his family's role, saying, "I had a cough, and it was not improving. It felt like there was phlegm blocking my throat, and my family said I should just go get it checked out."

Exhibit 7.1: More than 40% of patients take longer than 3 weeks to visit a doctor

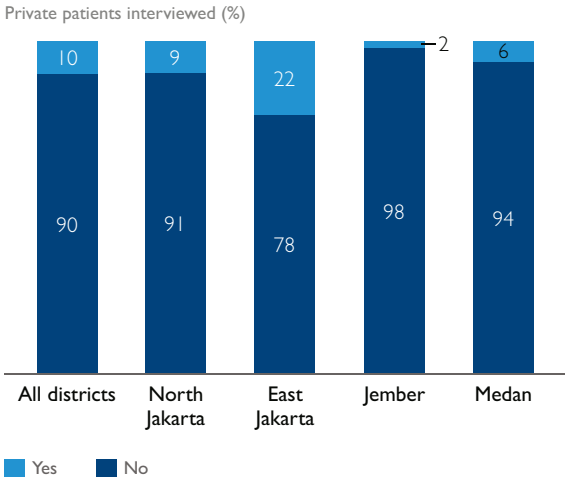
Q. How many weeks after noticing your symptoms did you first visit a doctor?



Only 20% of private physicians interviewed were able to cite all the common symptoms of TB

Exhibit 7.1.1: Patients are not able to associate their symptoms with TB at disease onset

Q. When you first noticed your symptoms, did you suspect you had tuberculosis?



Source: Patient interviews, total patients n = 204; n North Jakarta = 54; East Jakarta = 50; Jember = 50; Medan = 50.

7.1.2 Finding: Patients are not aware that TB can be cured and may be afraid to visit a doctor

In addition to patients who did not realize that they might have a serious illness, there was a smaller group of patients at the other end of the spectrum. These patients were afraid to visit a doctor because they were afraid of getting a bad diagnosis. In focus group discussions, one patient stated, "A lot of common people think there's no known cure for TB. I felt better when my friend told me it wasn't as bad as HIV." Another patient said, "Since 2000, I was a smoker and I got trouble breathing. I was scared of going to the hospital, because when I hear *hospital*," I don't want to get sick. When I hear the words *doctor* or *medicine*, I get scared because I don't want [to be sick]." Indonesia's NPS found that about one in five people are not aware that TB can be cured. If patients believe that there is no benefit to being treated for TB and are afraid of receiving a TB diagnosis, they can be inclined to delay visiting a doctor as long as symptoms seem manageable.

Both of these dynamics point to a lack of awareness and reliable information about TB for patients that is accessible before they visit a physician. Indeed, nearly all patients interviewed said that a doctor was their primary source of information about TB, and half said it was their only source of information.

7.1.3 Finding: Solution ideas raised by review participants to improve patient awareness and reduce care-seeking delay

Stakeholders such as patients, providers, and government offered a number of tactical suggestions for raising TB awareness among undiagnosed patients through advocacy and marketing campaigns. These included placing information about TB in the packaging of cough medicine and cigarettes; running television ads during highly viewed events, such as the World Cup; leveraging social media, including a TB Facebook page and WhatsApp or Line broadcast messages; and recruiting well-known public figures who have survived TB as spokespeople. It was suggested that any awareness campaign should be continuous and should use simple, accessible slogans. Government stakeholders also suggested establishing a hotline for people interested in information about TB. This idea was well-received by patients—as long as the hotline would be free and there would be no long waits to speak with someone.

7.1.4 Discussion: Solutions to improve patient awareness and reduce care-seeking delays

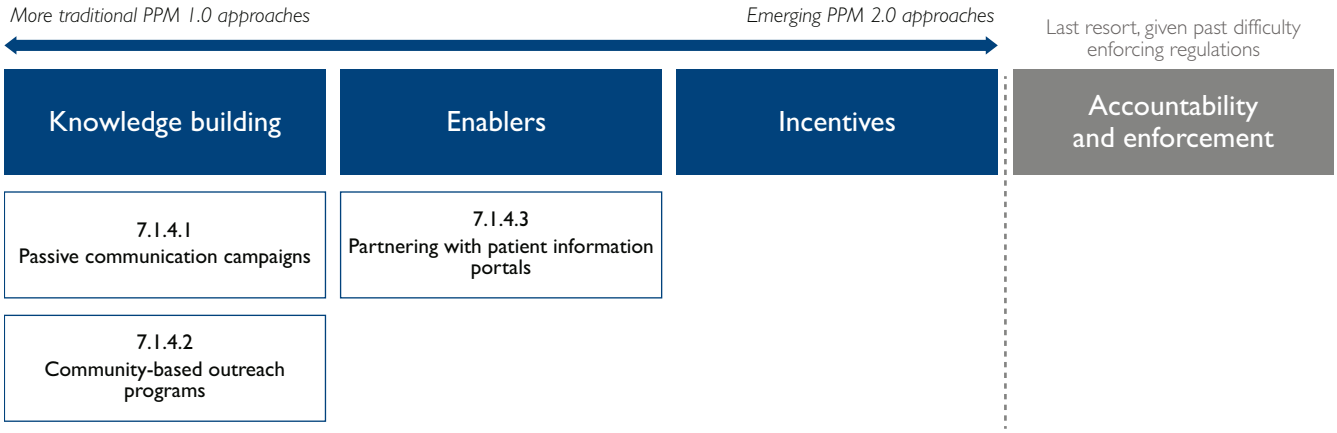
Interventions aimed at increasing patient knowledge of TB not only benefit private sector patients but also are likely to reach patients who seek care in the public sector. For both groups, reducing the time between symptom onset and seeking physician care is beneficial in reducing the spread of TB and getting individual patients into appropriate treatment more quickly. Both passive and active communication methods can be employed to encourage care-seeking, though careful design of these interventions is essential to ensure their effectiveness.

Three possible solutions are discussed in this section and summarized in the figure below.

7.1.4.1 Solution: Passive communication campaigns

Passive communication campaigns—for example, using mass media—aim to change behaviors both directly by impacting specific individuals and indirectly by increasing discussion and changing norms within a social group. Evidence on the effectiveness of passive campaigns is mixed, but there are some examples of impactful

Exhibit 7.1.4: Solutions to improve patient awareness and reduce care-seeking delays



campaigns.[59] There does not appear to have been a systematic review of the use of mass media campaigns related to TB, but one study of media and community TB awareness programs in Pakistan found that exposure to such programs was associated with changes in knowledge and attitudes about TB, including a heightened awareness of the need to refer someone with a persistent cough to a TB clinic. That study did not, however, examine resulting changes in behaviors.[60] A study in India also found that exposure to mass media campaigns was associated with greater knowledge of TB.[61]

Certain factors appear to contribute to the effectiveness of mass media campaigns in encouraging behavior change. Campaign consistency is key, as is the availability of services and products required to act on campaign messages. In addition, campaigns that focus on a discrete one-time or episodic behavior change (events and actions such as screening and vaccination) are more effective than those that require ongoing behavior change (for example, making changes to one's diet and limiting sun exposure). Making use of such tactics as public relations and media advocacy can complement more traditional media channels.[62] Different populations also react differently to the various ways that messages are delivered, so it's important to design and target media campaigns carefully.[63] For example, in one study, rural respondents were more likely than urban respondents to prefer receiving TB information from a trusted community leader. Campaigns also need to be sustained for a sufficiently long period of time so that key messages can become embedded in the cultural context, and positive effects won't dissipate quickly.[64]

In Indonesia, the NTP has developed the 6 Ms as a slogan to increase awareness and knowledge of TB.[65] The 6 Ms cross the spectrum of TB knowledge and awareness from understanding TB (*mengetahui*, which means "know") to the importance of treatment adherence (*mengobati*, "treat") to creating a healthier environment for people living with TB (*menciptakan*, "create"). In addition, the NTP and USAID have partnered on initiatives such as Temukan TB Obati Sampai Sembuh (TOSS TB), which means "Find, Treat, and Cure TB." TOSS TB was a 2016 public awareness campaign centered on World Tuberculosis Day. It included a public service announcement and an event focused on youth. The collateral materials it produced have since been used in district health authorities and used in a Jakarta billboard campaign.[66, 67] TOSS TB also incorporated social media outreach through the CTB Facebook page, including a blog session with the NTP, as well as an outreach event in the Marunda slum area of Jakarta with the minister of health and governor of Jakarta. However, it is not clear that TB awareness campaigns have been implemented consistently, focused on specific behavior changes, or tailored for high-risk groups.

Communication campaigns should be designed with several constraints in mind. First, there is evidence that most patients, when they first seek care, do not suspect that they might have TB. Thus, care-seeking campaigns must focus on symptoms, emphasizing the importance of promptly seeking care for a cough or night sweats, rather than on the concept of seeking care for TB. Most patients do not think that their symptoms indicate TB, and indeed many patients with TB-like symptoms do not, in fact, have TB. Second, very different campaigns and messages are needed for different target audiences. General-awareness campaigns about TB can be useful for raising political awareness and building pressure for public action. Campaigns about symptoms can drive people to seek care. And more complex campaigns about adherence can be suitable only for patients who are already diagnosed, rather than for a general, broader audience.

In the future, NTP could expand these efforts with ongoing TB communication campaigns focused on delivering a tailored set of high-impact messages that have been designed and tested with patients and aim to get people with TB symptoms to recognize them and see a doctor as soon as possible. Once a person with TB is in medical care, other information related to treatment and living environment can be delivered by a physician or another health care worker. Stakeholders interviewed for this review noted that a campaign should use both traditional communication channels (TV, publications, and posters) and nontraditional channels (social media, celebrity partnerships, and public ad placement), and it should be designed in collaboration with patients to ensure that it catches the attention of targeted groups at the most impactful points in time. Finally, although the crafting of the messages is important, equally or more important is the process of developing political commitment, such that the Government of Indonesia is positioned to undertake a campaign with national reach and consistent implementation.

7.1.4.2 Solution: Community-based outreach programs

There is evidence that passive communication campaigns are most effective when they are paired with community-based outreach programs.[68] In Indonesia, USAID has partnered with local not-for-profit organizations to train more than 2,900 community health volunteers in six provinces to educate communities about TB prevention and control, which contributed to an increased

case detection rate.[69] There may be an opportunity in Indonesia to explicitly link passive communication campaigns with the work of such volunteers and to expand the community-based TB case-finding and awareness programs.

As part of this review, six case studies were developed on effective community engagement programs for chronic diseases. The focus of the case studies was the identification of insights on how such programs are best implemented.[70] These case studies yielded four key considerations for community-based TB case-finding in Indonesia.

First, there is still a high level of stigmatization associated with TB in Indonesia, and it is important to design community engagement programs with this in mind. In focus group discussions, TB patients frequently mentioned their shame and dismay at being diagnosed with TB. One patient said, "I felt shocked. I eat clean food, and I have a clean house, so why did I still catch TB?" Another patient reported, "I didn't tell anyone I work with. I was scared that I would be an outcast, and they wouldn't want to be near me."

The continuing stigma has implications for community programs. They should include outreach to community influencers—for example, religious and village leaders—educating them about TB and helping them use their platform to raise awareness. In addition, community case-finding programs should be integrated with other health conditions so that people won't automatically be labeled as TB patients. Incorporating TB into existing community health structures also promotes more efficient use of resources because volunteers and health workers can address multiple conditions. This kind of integration was a hallmark of successful community-based programs reviewed across India, the US, and the UK. In Indonesia, this could include building on existing community health structures, for example, expanding the role of the country's integrated health service posts, Posyandus, and associated community health volunteers to include TB screening as part of their programming and incorporating TB risk factor identification into existing chronic disease screening programs at Posbindus (integrated development posts). Posyandus traditionally focus on reproductive, maternal, and child health, but some of the TB patients interviewed in this review were already seeking midwives for care when they initially felt TB symptoms, indicating both women's and men's comfort with Posyandu advice even for nonmaternal health conditions. However, it should be noted that the level of activity and coverage varies among Posyandus: only about 45% of mothers access Posyandus, and coverage varies among provinces.[71]

Second, the structures and influencers that best anchored community-based programs were extremely specific to individual communities, so decisions about them must be made at a local level. This reality, which was common across all the community-based programs studied for this review, aligns well with Indonesia's movement toward district- and sub-district-based PPM, as well as the decentralized nature of health care funding, but it presents challenges in mobilizing a coherent, nationwide response. Third, for funding to be sustainable and programs to carry on consistently, domestic funding for community-based programs is essential. Among the programs studied, community programs were mostly supported by funds allocated at the local level. Appropriate incentive structures—such as performance-based contracts and minimum patient outcome requirements—were typically required to motivate funding for community programs that could help reach targets at a lower cost. Funds were also sometimes earmarked at a national level, with implementation decisions made locally. Indonesia could explore earmarking funds for community-based programs through national guidance for budgets that are then allocated through district health plans or through BPJS-K set-asides. Decisions about how specifically to implement community programs could be made at the district or Puskesmas level, incorporating clear guidance that people with TB symptoms could be referred to either public or private providers (to ensure maximum follow-through by people with TB symptoms who prefer private providers).

Finally, there are a number of ways in which national governments can provide structure and resources that support community programs. These include developing national guidelines for effective programming, sharing best practices, funding the development of technology applications and other resources—such as symptom screening checklists—that support case-finding, analyzing data to identify TB risk factors and target community case-finding efforts, and evaluating the impact of community programs.

7.1.4.3 Potential solution: Partnering with patient information portals

In addition to media and screening strategies for which members of the targeted population are passive recipients of the intervention, resources can support people actively searching for information about TB. Most patients interviewed went to their doctors for TB information, but about 25% also looked for information online. It is reasonable to assume this behavior will become

more common as Internet access and smartphone penetration continue to expand from 34% and 43% in 2016, respectively.[72] However, in Indonesia, no patient-centric web portal currently offers accessible, accurate information about TB. NTP could partner with existing sites—such as Alodokter.com, the 28th most popular website in Indonesia—to ensure that information about relevant TB symptoms (such as a chronic cough) is prominently featured and that people who are experiencing such symptoms are encouraged to consult a primary care provider. In addition, if people who are exposed to a passive media campaign or to an awareness-raising community program about TB search for more information about the disease, the campaign could provide a link to a site that provides high-quality information about TB diagnosis and treatment. In addition to features related to care-seeking, a patient portal could provide a platform for self-management tools and networking. (See Section 7.7 for more detail.)

7.2 Opportunity: Strengthen linkages between private pharmacies and private primary care providers and between private labs and private primary care providers

Patients' lack of awareness that their symptoms might indicate TB can lead many patients initially to self-medicate and self-diagnose at private pharmacies and labs before visiting a doctor. As noted above, care-seeking at private pharmacies is well-documented in Indonesia's NPS and other literature, as wel as substantiated by pharmacists interviewed for this review. In addition to care-seeking at pharmacies, the private laboratory managers interviewed indicated that about 30% of the TB tests they conduct are for walk-in customers.

7.2.1 Finding: Private pharmacy and lab customers with TB symptoms are not referred to a physician

As discussed above, many people with TB initially visit a private pharmacy because they are looking for relief from symptoms, which they do not associate with TB. As one patient put it, "These are common symptoms, and we know what medicines to take. When we have a cold, we buy paracetamol. When we feel a fever, we take Panadol." Rather than visiting a private lab first, all the patients in the focus group discussions visited a doctor before being tested for TB, but many of them commented on the inconvenience of visiting the doctor. One patient expressed a common sentiment, saying, "It's difficult to visit the doctor. It's far from my house, and there are a lot of delays. I have to wait in a queue, or the appointment won't start on time." Patients place a high value on convenience. If a private lab offers a faster, more convenient experience, it might be reason enough for patients to choose to visit it before consulting a doctor. It's common for both private pharmacies and private labs to provide customers with symptom-relieving or specific-to-TB drugs and diagnostic tests without referring them to a physician.

Among the private pharmacists interviewed for this review, 80% agreed or strongly agreed that pharmacists should refer any customer who seems likely to have TB to a physician. However, this belief is not consistently reflected in the way the same pharmacists described their own behaviors. When asked what they would do when faced with a customer who had such common TB symptoms as chronic cough, fever, and fatigue and no doctor's prescription, only 44% of the private pharmacists interviewed would suggest that the customer visit a doctor. More than half, 56%, would dispense some medication—not necessarily TB medicine—without a referral. This may be a result of private pharmacists' difficulty recognizing TB symptoms. When asked to name the symptoms of TB, only 49% of the private pharmacists interviewed cited coughing for more than two weeks and only 16% were able to name more than one symptom. However, even when suspecting that a patient's symptoms indicate TB, 30% of private pharmacists interviewed would still dispense medication without a referral. Furthermore, 78% of the private pharmacists interviewed believe that pharmacists may provide TB drugs to customers without a prescription if they know what the right medicine is.

Likewise, customers who walked into the interviewed chain and standalone private labs and asked for TB testing would be given their test results directly rather than being referred to a doctor. One reason may be that private labs lack linkages with private physicians and the means to communicate test results. For example, in one focus group discussion, a patient commented that after having a doctor-prescribed smear test at a private lab chain, the results were given to her directly and she was asked to take the results back to the clinic where she had been receiving care. Patients may also be reluctant to visit a doctor until they know that they have a disease that warrants the time required. Many patients complained about the number of physician visits required before they were finally diagnosed with TB, as well as the inconvenience of waiting in long queues before being seen.

This dynamic in private pharmacies and labs can lead TB patients to self-diagnose and self-medicate, seeing a doctor only if symptoms become severe. In the worst cases, patients may begin a TB drug regimen having never seen a physician. Unsupervised and without insurance coverage at a private pharmacy, such patients would not likely receive and complete a full recommended TB regimen, especially as TB patients typically feel better before they have completed a full course of treatment. This can have consequences in terms of an individual patient's own outcome as well as the spread of TB and drug resistance.

7.2.2 Finding: Solution ideas raised by review participants to increase private pharmacy and lab referrals

Few opportunities for engaging private labs and pharmacies were raised by the private patients and providers interviewed, although this may be partly because pharmacists were not included in the provider focus groups. Government and other stakeholders did suggest that Ikatan Apoteker Indonesia (IAI), the Association of Indonesian Pharmacists, could create a circular for private pharmacists that explains when to dispense TB drugs and also suggests that if a customer who complains of coughing for more than two weeks asks to buy TB drugs, the pharmacist should refer the person to a physician. They also raised the possibility of prioritizing or accelerating licensing for pharmacies and labs that participate in TB programs or provide TB services.

7.2.3 Discussion: Solutions to increase private pharmacy and lab referrals to primary care providers

While the initiatives discussed above would ideally encourage TB suspects to seek care from a physician sooner, it is likely that, given the mild nature of many patients' early TB symptoms, initial care-seeking at private pharmacies and labs will remain common. Therefore, private pharmacies and labs can be key points of intervention, and they can funnel customers with TB symptoms to primary care physicians.

Some patients with TB symptoms do request guidance from private pharmacists. Of the private pharmacists interviewed, 38% indicated that customers with TB symptoms, rather than having a specific medicine in mind, typically ask for a recommendation. Although their advice is not always correct, private pharmacists seem comfortable giving advice to customers on how to handle their symptoms and recommending medication. As noted above, the pharmacists interviewed for this study were confident in their ability to dispense the appropriate medications for TB. The risk of this kind of interaction is that people with TB may get the wrong advice from a private pharmacist, and that advice might further delay diagnosis or result in the person taking the wrong medicines. Private pharmacists have a clear economic incentive to dispense drugs and, to a lesser extent, to do so without suggesting that the patient visit a doctor. Patients treated by a doctor for TB may gain access to government-subsidized TB drugs or be referred to a different pharmacy—especially if they are treated in a private hospital with an in-house pharmacy. Private pharmacists may lose potential sales if they make a referral and the patient does not return to the pharmacy to purchase his or her medicine.

In terms of some customers' willingness to take advice, the same pattern is true of private labs. Of the private lab administrators interviewed, 43% said that some of their customers for TB diagnostic tests are walk-in customers with no referral from another health facility who ask the lab to suggest a diagnostic test. For comparison, this is higher than the percentage of private lab interviewees who said they receive referrals from public hospitals or Puskesmas (19% and 39%, respectively). Private labs do not face the same risk in terms of losing business if they make a referral: their customers purchase their diagnostic tests from them. Therefore, it may be easier to incentivize private labs to refer customers with TB symptoms to a physician.

Building on this dynamic, five potential solutions to increase referrals from private pharmacies and labs are discussed in this section and summarized in the figure 7.2.3.

7.2.3.1 Solution: Information-sharing and training

A first step toward encouraging referrals is ensuring that private pharmacy and lab staff can identify TB symptoms, understand the importance of making physician referrals, and know the process for making referrals. There is a variety of partners with the ability to develop trainings and other resources, including IAI and Perhimpunan Dokter Spesialis Patologi Indonesia (IAPI), the Association of Indonesian Pathologists, as well as academic institutions. However, it is important to note that knowledge building alone is unlikely to result in the same level of behavior change unless it is accompanied by additional incentives. For example, most private pharmacists indicated that they already believe in referring customers with TB symptoms to a physician, but even among those interviewees who could recognize TB symptoms, referrals were not consistently reported.

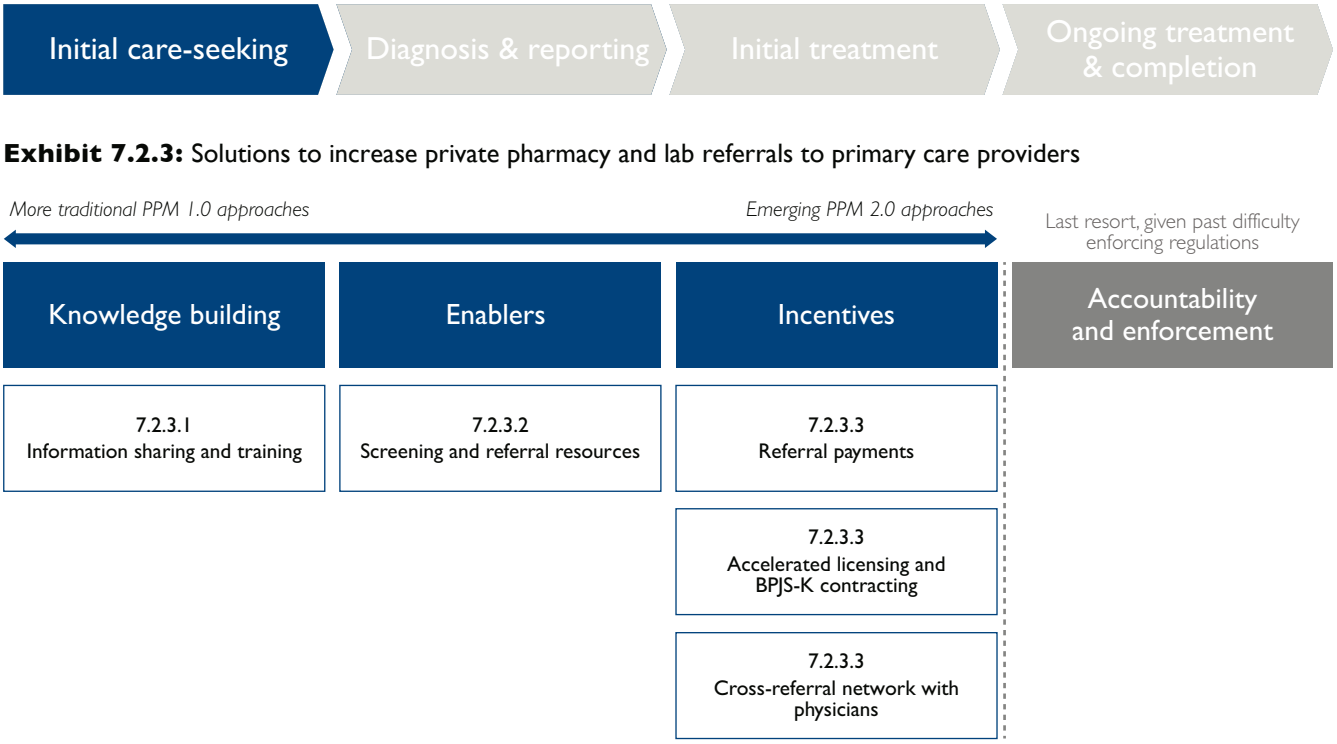


Exhibit 7.2.3: Solutions to increase private pharmacy and lab referrals to primary care providers

As noted earlier, some of the historical challenges related to the delivery of training to private providers in Indonesia—albeit physicians, rather than private labs or pharmacies—include inconsistent availability of trainings due to lack of funding and the large time commitment required to participate. Some providers feel that they do not need additional training to handle TB and are unlikely to attend unless it is clear that new information is being shared. If knowledge-building interventions are pursued, they should be designed with input from potential participants to ensure they meet those groups' needs and preferences. For the private sector, that likely means interventions that are short, simple, and tailored to the private providers' context. In addition, a sustainable funding and delivery model that does not rely on international donors must be developed. (See Section 8 for more detail.)

Specifically related to building knowledge among private pharmacy and lab staff, an opportunity does exist to gain scale in delivery by engaging private pharmacy and lab chains that operate multiple locations. If they don't already do so, chains could incorporate information about TB into standard onboarding and make physician referrals for customers with TB symptoms part of their standard corporate operating procedures. This would be a high-leverage way to engage many retail outlets directly. Still, it would not reach standalone facilities or more informal drug shops.

7.2.3.2 Solution: Screening and referral resources

Pharmacy and lab staff are more likely to refer patients if it is easy for them. Simple resources that help staff remember TB symptoms—for example, an app, website, fact sheet, or simple screening checklist for customers requesting certain medications or tests—and identify nearby doctors can facilitate this. Private pharmacy and lab staff should be engaged in the development of any such resource meant to support them to ensure that it meets their needs. Similar to knowledge-building interventions, this may make it easier for pharmacy and lab staff to make referrals but does not guarantee that they will do so.

7.2.3.3 Solution: Referral incentives

The most significant and sustainable behavior change is likely to occur if private pharmacies and labs are incentivized to make physician referrals. If incentives are structured effectively, this can also prompt private pharmacies and labs to independently invest in training and resources for their staff. This is particularly important for private pharmacies: they benefit economically from selling medicine to customers with TB, and the potential for profit could act as a disincentive, keeping them from referring those customers to a physician.

Incentives could take a number of forms, including financial payments, BPJS-K contracting eligibility, accelerated licensing or license renewal, enhanced reputation earned by making evidence-based referrals to well-qualified providers, and cross-referrals from private physicians. Different incentive mechanisms offer different tradeoffs, and additional analysis will be required to finalize a recommendation in this area. For example, financial payments, which provide the most direct economic incentive, are more expensive for the

payer, which, most likely, is the national health insurance program or provincial or district health authority. Management of such incentives would require a system to track referrals and make payments. Tying participation in a training session and referral program to the ability to contract with the national health insurance program or to license a private facility would be less expensive to administer than government-driven financial incentives. However, this would encourage participation only in a program rather than encouraging the behavior itself. Also, given that few private pharmacies are under contract to the national health insurance system today, anything that acts as a barrier should be weighed against the need to have additional pharmacy options for patients. In each of these scenarios, the NTP would likely be required to collaborate with another government agency in order to implement the program.

Another way for private pharmacies and labs to benefit financially from referring suspected TB cases to physicians would be to have the physicians agree to refer patients back to the pharmacies. If private labs and pharmacies were connected—possibly through professional associations—they could form their own referral networks to increase referral flows and, therefore, revenues on both sides. Chain pharmacies and labs might be able to develop a physician referral network that covers multiple retail outlets. The advantage of this type of network is that it is economically beneficial for both sides, requiring little government intervention to maintain (although support to facilitate the formation of these networks could be helpful). Participation in such a network directly rewards actual referrals, as opposed to simply participating in a program.

Similar to the direct financial payments discussed above, this approach also includes some disadvantages. For example, as BPJS-K enrollment increases, private labs and pharmacies would need to refer suspected TB cases to the patients' BPJS-K primary care provider in order for the consultation to be covered, possibly reducing the value that labs and pharmacies can bring to physicians in terms of generating additional patient flows for them. Furthermore, unless private TB patients remain in primary care for treatment rather than at a private hospital with an in-house pharmacy, the physicians will find it difficult to deliver counterreferrals. In addition, for TB patients to accept counterreferrals to a private pharmacy or lab, they must be able to obtain drugs or diagnostics at no cost. Otherwise, the private pharmacy or lab can't compete with the free drugs provided through Puskesmas and the free drugs and diagnostics provided through BPJS-K coverage at private hospitals. Finally, if private physicians refer their patients back to a private pharmacy, those patients would be unable to consistently access FDCs. An intervention to reduce diagnosis delays might inadvertently result in TB patients having more difficulty adhering to treatment due to reliance on loose drugs from private pharmacies. Therefore, if private physicians are encouraged to form referral networks of this type, it may be more practical in the short term to construct a mechanism that avoids some of the current BPJS-K limitations and allows private pharmacies to dispense free public FDCs at a minimal cost to the patient. A solution of this type is discussed in greater detail in Section 7.6.

Although their implementation is complex, incentives are among the most powerful levers to drive private providers' behaviors and should be considered. Private pharmacies and labs should be engaged in the design of any incentive program to ensure that it delivers the intended effect.

7.3 Opportunity: Improve diagnostic options for patients in private primary care

Once a patient turns to a physician, the next hurdle is to get an accurate diagnosis of TB. Most of the private internists and pulmonologists interviewed did report using a chest x-ray or a smear test when they suspected TB. However, there are still challenges: patients visiting multiple providers to obtain a diagnosis, low use of smear microscopy among private GPs, continuing use of supplemental tests, poor test quality at private labs, and limited diagnosis of drug-resistant TB.

7.3.1 Finding: Some patients visit multiple providers before receiving a TB diagnosis

During focus groups, a number of patients mentioned that they had seen several providers before finally getting a TB diagnosis. This typically occurred in two situations. Some patients reported that a physician initially gave them symptom-relieving medication, telling them to return if their health did not improve. For example, one patient said, "When I got a fever, I went to a couple of doctors for three weeks and they gave me paracetamol. In those three weeks, I did not know I had TB, so I used my BPJS-K to go to the Puskesmas because they can treat fever or TB. But I was still confused for those three weeks. After that, I went to a private doctor and then was told I am suffering from TB." Another patient said, "Even when you go to the Puskesmas, they observe you for four days. After my condition was not getting better, they suggested that I should go to the hospital."

This is supported by the finding that the private GPs interviewed were unlikely to know all the common symptoms of TB. Although most could name coughing, chest pain, weight loss, and loss of appetite as TB symptoms, fewer—especially GPs outside of Jakarta—cited fatigue, night sweats, fever, and chills as TB symptoms. Many patients were proactive about switching doctors if they felt that they weren't seeing the improvement they expected. One patient said, "If I am not getting better, I try another doctor. We are looking for improvement. Finally, when I got better at one doctor, I keep going to him." Physician focus groups corroborated this as well. For example, an internist reported, "Usually patients who see me have already been to a clinic or GP, but the disease is not cured. After they don't get well, then they will visit me."

A second scenario is that a patient seeing a primary care provider is referred to another facility for diagnostic testing if the provider does not have in-house access to microscopy or x-ray equipment. Although this is consistent with current NTP and JKN guidelines for TB care, it can be problematic for two reasons. From the patient's perspective, it is inconvenient to visit multiple facilities, and it can be costly if the patient has to travel or take time away from work or child care. As one patient said, "The back and forth is a big effort. We need to go somewhere else to test and then come back the day after [to get the results] and then take it to the doctor. We already take the day off. It should just take one day, but we need to take another day off." From the standpoint of private physicians, it's better to send BPJS-K patients to a hospital for diagnostic tests than to a Puskesmas if they think that the hospital is less likely to capture the patients' capitation payments. However, once patients have been seen at a private hospital, very few are ever referred back to primary care.

7.3.2 Finding: Use of smear microscopy is limited among private GPs, and supplemental tests are still common across all private physicians

Among pulmonologists and internists interviewed, 84% and 92%, respectively, reported using sputum smear microscopy to diagnose TB. However, among private GPs interviewed, the proportion who reported that they would conduct a sputum smear was lower—only 60%. This was largely related to concerns about the accuracy of smear tests and particularly the ability of the patient to produce sputum. One GP said, "Some patients cannot provide enough sputum for the test, and I know they will provide saliva instead. We all know the test would not be accurate." Some doctors questioned the quality of the test procedure or the accuracy of the test itself—even when performed correctly. Another physician commented, "The error rate is high, especially for those [lab staff] who are not trained. Private labs who are not in the [quality assurance] program are the problem." Among GPs, it appears that many private physicians are aware of the recommended tests but choose not to use them owing to concerns about accuracy rather than lack of knowledge.

Among those GPs who did recommend a smear test, 85% said that they would send patients with TB symptoms to the lab at the private hospital where they work or to a nearby private lab for the test. This pattern was similar among the private internists and pulmonologists interviewed. For physicians practicing at a private hospital, referring patients to an in-house lab was the most convenient option for them and their patients. In addition, physicians practicing in BPJS-K facilities can claim an additional reimbursement when an x-ray is required. Almost none of the private physicians interviewed would send a patient with TB symptoms to a public facility for testing. Only 5% would recommend a public hospital or a Puskesmas, and all but one of these physicians would also suggest a private facility. This may be driven by patients' lack of interest in visiting a public facility or by—in the case of a GP—the physicians' fear of losing a capitation payment to a Puskesmas.

Some providers conduct supplemental tests for a patient suspected of having TB. The most common additional tests cited were an Erythrocyte Sedimentation Rate (ESR), a diagnostic blood test to both support a TB diagnosis and identify coinfections; a Mantoux skin test; and Interferon Gamma Release Assay (IGRA), a TB blood test. Although IGRA was rarely used by GPs, it is still employed by about 25% of internists and pulmonologists. There was also a small proportion of physicians interviewed (about 15%) who said that they would prescribe a Mantoux or ESR test in addition to a chest x-ray but without smear microscopy. Many physicians expressed a strong feeling that it was their right to determine the appropriate diagnostic tests and that they would do what was comfortable for them. As one internist put it, "It is totally my prerogative which tests I want to use. I know what's best for my patients."

7.3.3 Finding: Poor test quality at private labs

Poor-quality testing procedures at private labs can hamper diagnosis. Interviews with lab managers revealed a number of issues that could affect the quality of a smear test, including taking only spot sputum, collecting too few samples, and putting more than one smear on a single slide. Only 20% of lab interviewees were able to identify a picture of a watery sputum sample with too much

saliva. This is certainly cause for concern given physicians' reports that many patients have trouble producing a high-quality sputum sample. These issues can result in inaccurate results and reduce physicians'—especially GP's—confidence in their ability to make a diagnosis.

7.3.4 Finding: Limited diagnosis of drug-resistant TB

Although most private physicians interviewed are using the recommended diagnostic tests to identify first-time TB, there is less evidence that they understand how to identify drug-resistant TB. When asked what tests they would use to confirm drug-resistant TB, only one-third of pulmonologists indicated that they would use a culture and drug-sensitivity test, and half said that they would conduct a GeneXpert test on a suspected MDR-TB patient. Among internists, 60% would use a culture, although few—only one in five internists—reported using GeneXpert. Some physicians were not aware of GeneXpert or that even a machine located in a public facility may be accessed by the patients of private physicians through referral. For example, one internist said, "GeneXpert is only for public hospitals. Those of us in private hospitals do not have access to it." Some private lab chains are using tests similar to GeneXpert that they have developed in-house and that may be less expensive to implement than GeneXpert. However, it's not clear how accurate these tests are.

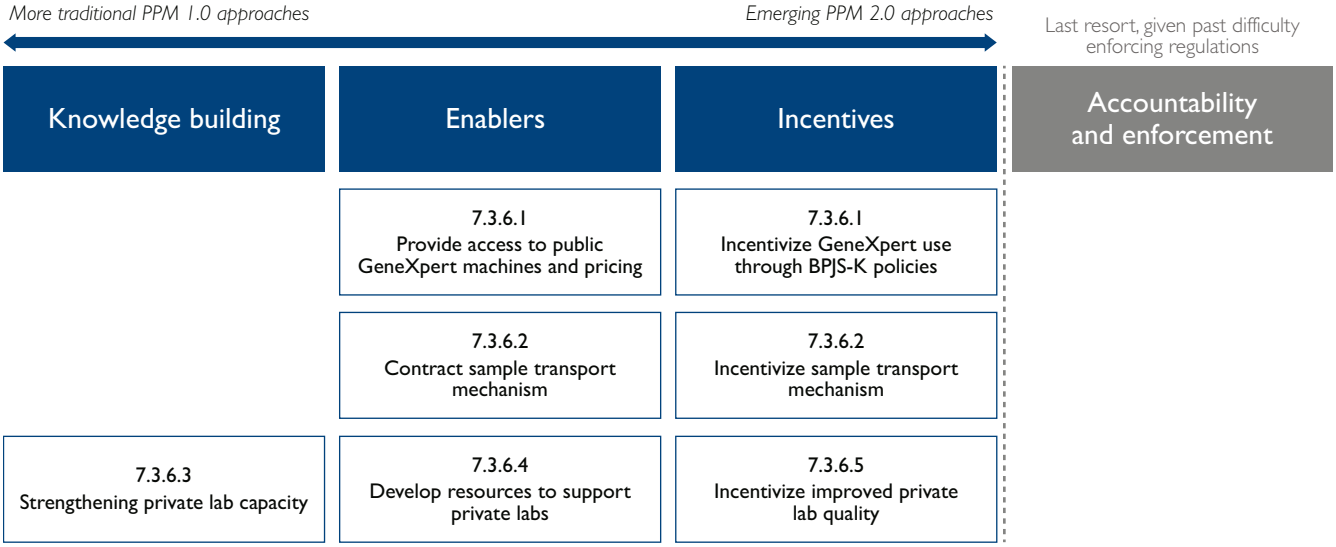
7.3.5 Finding: Solution ideas raised by review participants to improve diagnostic options for patients in private primary care

Among private providers, most suggestions to improve TB diagnosis centered on electronic communication between providers and laboratories. They also discussed services that are already operating in some areas to provide at-home sample pickup from patients. Providers noted that these services are more likely to be offered by labs if there is a BPJS-K reimbursement payment offered that is large enough to cover the costs incurred. Patients also noted the convenience of sample transport networks, but they wondered whether the couriers have sufficient training that their samples would not be contaminated or misattributed to another patient. Government stakeholders noted that one option for implementing a transport mechanism would be for the provincial health authorities to contract with an online transport provider such as GoSend, allowing for online tracking of sample delivery and test results. They noted also that the logistics of arranging reimbursement and forming contractual relationships would be the challenges involved in setting up such a mechanism. Government stakeholders raised the possibility of building private lab staff capacity through train-the-trainer programs, heightened quality control, and standardizing high-quality sputum smear test procedures through provincial regulations.

7.3.6 Discussion: Solutions to improve diagnostic options for patients in private primary care

Diagnosis is a critical area of opportunity in the private sector. Ideally, private sector patients and providers would have access to highly accurate diagnostic tests that do not require patients to visit another facility. Currently, on-site diagnostic testing is available to patients who seek care at public facilities and private hospitals, but rarely in private primary care clinics or independent practices. Many of the

Exhibit 7.3.6: Solutions to improve diagnostic options for patients in private primary care



private sector patients interviewed said that they prefer not to visit a public health care facility for diagnosis and that being referred to a public health facility, per current guidance, could result in patient loss prior to initiation of treatment. Instead, many of them said that they prefer the convenience and affordability of private hospitals under BPJS-K contract, which provide all required services under one roof at no charge to the patient. Without strong enforcement of hospital down-referrals, patients are likely to stay at private hospitals once referred there. Therefore, addressing the cost and convenience of TB diagnosis for patients in primary care is a critical aspect of encouraging their continued treatment by a primary care provider. (See Section 7.5 for more detail.)

In considering these dynamics, two potential avenues were identified for improving diagnostic options while encouraging patients to stay in primary care. The first option focuses on using the combination of GeneXpert and a well-functioning sample transport mechanism that allows primary care physicians to diagnose TB without a patient referral. Given that there may not be a sufficient volume of TB tests to justify investment in GeneXpert in all locations, the second option focuses on strengthening private laboratories. The discussion below includes five specific solutions in these two avenues.

7.3.6.1 Solution: Provide access to public GeneXpert machines or pricing and incentivize GeneXpert use

One way to strengthen diagnostic infrastructure while keeping patients in primary care depends on making molecular diagnostics widely accessible to private providers. Indonesia has already made substantial investments in rolling out GeneXpert across public facilities. Some private hospitals are now planning to invest in GeneXpert as well, and this could be further supported by giving private providers access to preferential public sector pricing for equipment and test consumables, (as currently planned by the NTP and CTB). Depending on how the pricing and BPJS-K reimbursement for GeneXpert machines and cartridges are structured, this could affect providers' choice of tests—for example, GeneXpert or chest x-rays—overall or for certain patient groups, such as patients using national health insurance.

It is clear that public sector guidance and leadership are needed on this issue. In other countries, such as the Philippines, local GeneXpert vendors have placed machines in private hospitals under contract, obligating the hospital to source all cartridges from that vendor at heavily inflated prices. This expense is passed on to the consumer. Because this expense puts the tests beyond the reach of most patients and the national health insurance scheme, most of the potential benefit of the machines is lost. Proactive work on better schemes for GeneXpert pricing and access in the private sector is needed before inflated prices become widespread and entrenched.

With sufficient GeneXpert capacity, private primary care providers could be linked to facilities with GeneXpert, allowing patients access to GeneXpert testing through referral. This would also require adjusting the recommended diagnostic algorithm to put GeneXpert first for new patients with TB symptoms—a process that is already being rolled out in the public sector—and ensuring that placement of public and private GeneXpert machines is optimized such that sufficient capacity is available to accommodate private providers.

Widespread placement of GeneXpert in the private sector first requires choosing one of the two following options:

- Placing publicly-procured GeneXperts in private settings including laboratory chains, providing publicly procured cartridges for free, and restricting provider fees to a minimal service charge that covers running costs and maintenance and calibration costs
- Having the MoH negotiate with Cepheid, which makes GeneXpert machines, and its supplier for public sector prices for the machines and cartridges for the private sector, through private sector procurement, on the condition that markup is kept to a minimum, using the IPAQT model[73]

If the second option is feasible, it will be more effective in private sector mechanisms. Both models require a mechanism for verifying or otherwise controlling the final markup or price. GeneXpert coverage under BPJS-K could act as an effective cap on GeneXpert pricing.

Once GeneXpert is in place, it will be possible to leverage BPJS-K payment policies in ways that encourage its use by private providers. For example, physicians in BPJS-K private hospitals interviewed for this review were highly likely to use a chest x-ray for TB diagnosis, partially for clinical reasons but also because INA-CBG reimbursement can be claimed separately. Conversely, one of the reasons why drug susceptibility testing (DST) is rare is its high cost. Owing to its high cost and the lack of separate reimbursement, BPJS-K hospitals limit its use. A sufficient reimbursement for GeneXpert, coupled with favorable—public sector—pricing for cartridges will also encourage private facilities to invest in the machine, market it to small providers, and invest in infrastructure that supports its use.

Prioritizing GeneXpert would move the private sector toward the future of TB diagnosis, avoid the difficulties of establishing quality assurance for smear tests in the private sector, and promote primary care physicians' confidence in test results and their ability to diagnose. In addition, if physicians choose to use diagnostics performed at health facilities rather than in private labs, patients with national health insurance coverage will not be required to make out-of-pocket payment. Finally, GeneXpert can be connected to technology solutions such as GxAlert, which automatically transmits test results to the district health authority and the provider, indirectly helping district and sub-district TB officers monitor case notification from private providers, by, for example, allowing them to compare the number of positive test results with the number of case notifications by a provider.

7.3.6.2 Solution: Contract or incentivize a sample transport mechanism

GeneXpert provides a more accurate test that also facilitates MDR-TB diagnosis, but it does not address the issue of secondary facilities with in-house laboratories' being comparatively more convenient for patients than primary care. Funneling patients to secondary facilities for testing can further increase the risk that TB patients remain in secondary care. A reliable and easy-to-access sample transport mechanism is necessary to gain the full benefit of GeneXpert.

CTB has already begun to implement a transport system that brings sputum specimens to referral sites for GeneXpert and culture and DST in ten districts. Implementation varies by district, using pickup points in some districts and transporting directly to the GeneXpert site in others. Trainings and video tutorials have been used to ensure correct specimen packaging. However, it is not clear whether private providers may use the transport network, and it appears that most facilities and pickup points currently used are in the public sector. This would still require private providers to ensure samples are transported to a public facility (alternatively, patients themselves would have to move, defeating the purpose of having patients tested without their having to leave their primary care provider). Furthermore, to match GeneXpert deployment, the network would need to rapidly scale up from the current ten districts.

One way to accomplish this would involve contracting with private sector transportation and courier services that already have established capacity and could enable more distributed pickups. If, however, the INA-CBG reimbursement for GeneXpert is high enough, private hospitals and other facilities with the machines might invest in their own sample transport network to facilitate use of the machine and increase their revenues. This approach would have to be coupled with enforced down-referrals from private hospitals. Otherwise, hospitals could be incentivized to have patients physically transfer to the hospital for testing, making it more likely that they remain in secondary care afterward and allowing the hospital to garner additional fees from later consultations. One possible undesired consequence of this would be patients continuing to enter and remain in secondary care rather than returning to their primary care providers—with the added cost of GeneXpert reimbursement. Regardless of who operates the network, it must be clear to patients that sample transport is part of a health care network. If not, patients won't trust the competency of the courier and will fear that their samples could be negatively affected.

7.3.6.3 Solution: Strengthen private lab capacity through training and resources

Another way to improve diagnostic infrastructure involves strengthening the quality and reducing the cost of diagnostic tests for patients at private labs. Visiting a second facility for testing remains less convenient for patients. However, it could be an alternative in locations where the projected volume of TB tests is not sufficient to justify investment in a GeneXpert machine or sample transport mechanism, but there is an existing market for private labs outside of hospitals. Given the lower volume of presumptive TB cases in these locations, strengthening private labs should be a holistic effort implemented by the district or provincial health authority across diseases, including TB.

Three types of interventions—focused on knowledge building, enablement, and incentives—should be considered. (See Section 7.3.6.4 for detail on incentives.) Staff in private labs need to build their knowledge of how to conduct TB tests correctly—including how to recognize a high-quality sputum sample and arranging the correct number of smears per slide—and to maintain robust quality assurance procedures in the lab. This could be accomplished in similar fashion to the interventions described above, increasing knowledge about physician referrals from private labs, for example, engaging professional associations and developing short, streamlined, private provider–focused training programs and online resources. As noted above, challenges related to intervention design, ongoing funding, and motivating providers to attend must be addressed.

Likewise, the NTP could contract with relevant professional associations and schools to develop simple, concise resources for private lab staff— posters,

checklists, and videos—that cover key procedures such as taking sputum samples and interpreting a smear. The resources developed in such an effort would be similar to the video tutorials already disseminated by CTB on sample packaging and the digital checklists used by some providers in high-income countries to ensure adherence to proper procedures. Resources like these enable private lab staff to follow appropriate procedures by helping them remember past trainings and guiding them through testing. To ensure their utility, such resources should be developed with substantial end-user input.

7.3.6.4 Solution: Incentivize improved private lab quality

Interventions should aim to adjust the economics for private labs and incentivize them to invest in quality assurance that improves sputum smear test procedures. Such programs have the benefit of motivating participation in quality certification, training, and resource development. If the incentives are significant enough to create demand, it might be possible to use revenue from the labs themselves to fund such programs. It might be possible to achieve this by implementing a fee-for-service program at quality-assured labs through a BPJS-K contract or patient vouchers, with labs required to participate in quality assurance certification and monitoring—such as the existing external quality assurance program, Pemantapan Mutu Eksternal (PME)—in order to qualify.[74] Labs would participate because patients will be more inclined to select the labs that accept either their health insurance coverage or vouchers that ensure that they do not have to make out-of-pocket payment for tests. This would also equalize the private lab and private hospital cost of diagnostic tests for patients.

An alternative might be to allow a private lab with quality certification to accelerate the process of obtaining and renewing its license to operate. As discussed previously, this incentive would be a less expensive intervention on an ongoing basis, but implementation would require cooperation with other government agencies, including the provincial government. And it would not address the issue of private labs outside of hospitals being more expensive for patients, as there are no labs currently under contract to BPJS-K and there is no mechanism for covering tests through physicians' capitation payments.

7.4 Opportunity: Streamline and reduce barriers to case notification

In 2015, despite estimates that nearly half of TB treatment occurs with private provider, only 9% of TB cases notified through the SITT came from private GPs, clinics, and hospitals.[75] As discussed in Section 1, this shortcoming is significant because it prevents the NTP from ensuring quality diagnosis and care, monitoring outbreaks, and tracking progress. In light of the proportion of TB cases treated by private providers, identifying missing cases and increasing the notification rate among private providers will be critical to the improvement of both individual patient outcomes and national management of TB.

7.4.1 Finding: Private providers do not see TB case notification as mandatory and few choose to report

It is clear that, despite the decree in place, private physicians do not perceive TB case notification as mandatory, and there are few mechanisms for making the process easy or for holding physicians accountable. When asked why they do not report TB cases, physicians cited the time and paperwork required. One physician said, "I would rather see patients than do administrative work like

Exhibit 7.4.1: Most physicians who do not report cases are aware that they should and know how to do it

Q. Are you aware that you should report TB cases to the district health office? Do you report your cases?

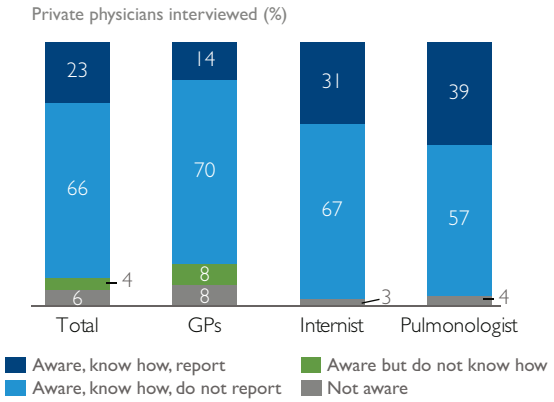
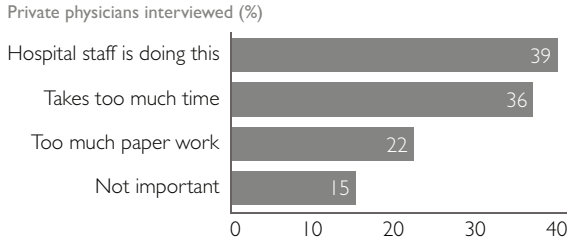


Exhibit 7.4.1: Physicians cite multiple reasons for why they are not notifying cases

Q. Why don't you report diagnosed TB cases to the district health office?



Source: Provider interviews, total physicians across districts = 205. North Jakarta GP = 30; Internist = 5; Pulmonologist = 15. East Jakarta GP = 30; Internist = 14; Pulmonologist = 16. Jember GP = 30; Internist = 3; Pulmonologist = 2. Medan GP = 30; Internist = 14; Pulmonologist = 16.

reporting." Other physicians believed that all 12 TB forms were required to report a case, and they viewed that as too much effort. In focus group discussions, physicians also raised considerations related to SITT, including the overall ease of use, the number of fields to complete, and lack of access to the system. Some physicians said that if reporting was important to the government, someone from Dinas Kesehatan should come to their office to collect the desired data.

7.4.2 Finding: Solution ideas raised by review participants to streamline and reduce barriers to case notification

Most of the private physicians suggested solutions that would increase resources for case reporting, such as implementing a financial payment for each case reported, providing a special budget for equipment and staff to report TB cases, and designating a staff member from a Puskesmas or Dinas Kesehatan to collect reporting data from each private practice or facility. They noted that the case-reporting forms could be simplified and that this should extend to SITT. There was further enthusiasm for the creation of a comprehensive patient data system that would allow them to communicate with other providers, such as private labs.

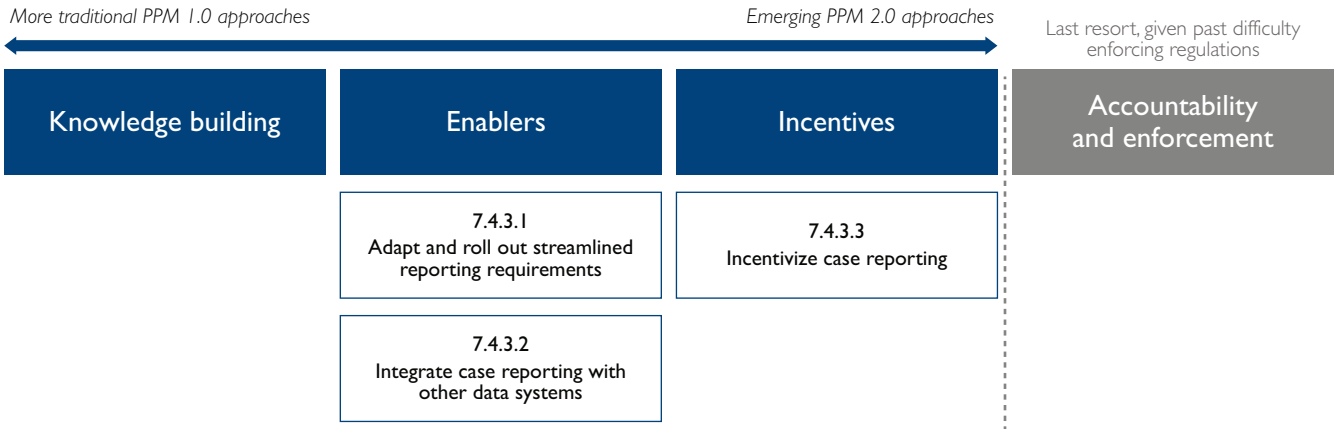
The solution ideas offered by government health officials and other stakeholders were more varied. There was acknowledgement that case reporting—both on paper and electronic—could be more user-friendly. Health officials noted that formal directions or instructions would be required to use even a simplified reporting system, though private physicians did not mention the need for more training or socialization. Health officials commented on a range of nonmonetary incentives that could be offered for case reporting, including acknowledgment and public appreciation, access to government-funded TB drugs, and free license extension. They also mentioned the possibility of imposing consequences for failure to comply with reporting requirements, for example, revoking licenses to practice or operate and blocking access to government-funded TB drugs.

7.4.3 Discussion: Solutions to streamline and reduce barriers to case notification

Indonesia's new mandatory-notification decree provides a policy framework on which to base initiatives that promote case reporting. However, holding private providers or private facilities accountable for complying with the decree is not easily done. In the absence of consistent case reporting, it is difficult to know which private providers are treating TB cases that should have been reported and then to enact consequences for noncompliance. It is also unclear whether there would be interest from the required government stakeholders to enforce such meaningful consequences as fines or revocation of an operating license. Therefore, although some government health officials suggested this as a possible solution, it is not discussed in detail here. In addition, although case reporting is a prerequisite for accessing government-funded FDCs, this access does not seem to be a sufficient incentive for private providers to report TB cases. This is true especially of private primary care providers, who can refer their patients to a private pharmacy to purchase TB drugs without incurring any financial burden on themselves. Therefore, this is also excluded from the solution set under consideration.

Likewise, knowledge building is not a focus in this solution discussion: most private physicians interviewed were aware of their reporting obligation and the process by which they should report TB cases. Some efforts to

Exhibit 7.4.3: Solutions to streamline and reduce barriers to case notification



educate private providers about new approaches to case notification might be beneficial, but lengthy training requirements—such the current training required to gain access to SITT—should be avoided as they can deter private physicians from participating. Physicians and other health facility staff will likely prefer self-service training or informational resources and these models are more sustainable.

The three solutions discussed below focus on enabling and incentivizing TB case notification, rather than oversight and enforcement.

7.4.3.1 Solution: Adapt and roll out streamlined reporting requirements

The current forms required for case reporting are designed with public sector use in mind and contain fields that are not strictly necessary for a private provider to complete. This extends to the data entry required for SITT. The NTP has taken steps to streamline private provider reporting requirements as part of developing the WiFi TB mobile app in partnership with CTB. WiFi TB facilitates streamlined electronic reporting from a private provider to the nearest Puskesmas. Once the WiFi TB pilot has been completed and necessary adaptations that incorporate physician feedback have been made, the NTP and district health authorities plan to accelerate the app's rollout to private providers. In doing so, they should ensure that there are few barriers—for example, lengthy training and certification requirements—to adoption. They should make WiFi TB available in a web-based version: a majority of the physicians interviewed expressed their preference for web tools over a mobile app. In addition, the NTP and Dinas Kesehatan could apply the simplified reporting requirements developed for WiFi TB to the paper forms for private providers who choose to report manually.

7.4.3.2 Solution: Integrate case reporting with other data systems

Given that private providers under contract to BPJS-K are required to submit data in order to receive payment, another technology solution could involve incorporating case reporting into BPJS-K data collection. BPJS-K's current data requirements could be adapted for gathering information about the number of TB cases treated. In secondary facilities that are required to code and submit different services for BPJS-K verification and reimbursement, BPJS-K could require a specific code for TB cases. In primary care facilities, this could include reporting on the number of TB cases as part of the information required for BPJS-K to make monthly capitation payments.

This information would then be reported from BPJS-K to Dinas Kesehatan, manually or through an integration with SITT. For an integration to be feasible, a consistent patient identifier and common data standards across systems will be necessary. Given the central role of BPJS-K data for provider payments, adopting its system standards—and adjusting them as needed—might be the most effective option. The design of a new TB data system currently underway—Sistem Informasi TB (SITB), uniting the information systems for drug-sensitive TB and drug-resistant TB in one place—provides an opportunity for integration with BPJS-K systems.

As noted previously, private physicians in this review favored reporting solutions that reduced their level of effort and met their other data needs. Private providers could be encouraged to use this system if it is designed to meet their needs for tracking patient data and keeping records or if it removes the burden of entering data into multiple systems or forms. Private providers' needs should be considered in SITB design and could even include a separate user interface designed specifically for private providers.

To the extent that GeneXpert utilization increases, GxAlert can also be deployed to automate the transmission of initial test results through GeneXpert to physicians and the district health authority. It could also be integrated with other data systems to allow physicians to report a case electronically after receiving test results and confirming their diagnosis. This would further allow TB coordinators in each Puskesmas to cross-check notifications with positive GeneXpert results. CTB already plans to provide support for GxAlert implementation, so this should be pursued in concert with GeneXpert implementation, including in private facilities.

It is worth noting that some of these solutions could lead to a significant jump in diagnosis notifications, without a commensurate increase in treatment outcome notifications. A similar situation has arisen in India, bringing consequences for the national TB treatment success rate. Solutions related to notification of treatment outcomes are outlined in Section 7.4.3.3.

7.4.3.3 Solution: Incentivize case reporting

The NTP and BPJS-K may wish to test the impact of supplemental payments to private providers for successful treatment completion of notified cases in order to incentivize reporting. In theory, this would require a verification system to ensure accurate reporting, but in reality, it would likely be part of a comprehensive package

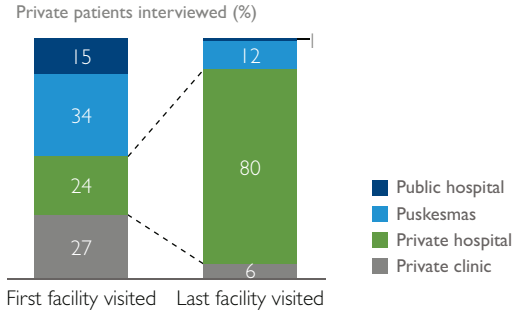
that is documented through a pathway of diagnosis, drug supply, notification and treatment. (For example, similar to the PhilHealth TB package implemented in the Philippines). Other incentives for consideration include the waiver of licensing fees or the acceleration of the relicensing process for private providers that report a certain number of cases. Multiple stakeholders suggested forming corporate partnerships to reward—for example, with airline miles or mobile data credits—providers who report TB cases. Incentives can be reduced to the extent that other initiatives reduce the resources and effort required of private providers for case reporting. Incentives could also be provided to other actors who encourage and facilitate reporting. For example, the provincial and district professional associations that achieve the greatest increase in case notification from their private provider membership could receive a special acknowledgement from the MoH.

7.5 Opportunity: Encourage down-referrals from private hospitals to primary care facilities

Most patients interviewed for this review did visit a primary care provider when initially seeking care from a physician. This finding is promising, since a number of dynamics make it difficult to shift patients back to primary care once they visit a private hospital. As noted previously, nearly 80% of patients interviewed were ultimately treated at a private hospital. Interviews and focus group discussions with patients revealed four key dynamics that drove patients toward private secondary facilities for TB care, as well as provider economics under BPJS-K that reinforce this trend. Each is discussed below.

Exhibit 7.5: Patients who end at private hospitals start at a variety of facilities[1]

Q. When initially being treated for TB, what facilities did you visit for diagnosis, treatment or to buy a drug, and in what order?



Source: Patient interviews, total patients n = 204; n North Jakarta = 54; East Jakarta = 50; Jember = 50; Medan = 50.
[1] The findings relate only to the patients who were interviewed for this review. The numbers are valid only for this specific sample, which has certain biases discussed in Section 4 of the report. The numbers should not be cited as a valid portrait of the national situation. They should be understood only as a representation of the convenience sample of this review.

7.5.1 Finding: Private sector patients and providers have low awareness of TB symptoms

Although many patients are aware of TB symptoms, few of them associated their own symptoms with TB. As discussed previously, failure to recognize TB sympton can delay care-seeking and result in more severe symptoms that lead patients to seek hospital care.[76] A patient in Jember described not taking any medication because he did not want to spend money at the pharmacy. When he finally started coughing blood and collapsed, he went to the hospital. Furthermore, even public and private providers may not initially recognize all the symptoms of TB. A number of patients in focus groups reported receiving symptom-relieving care at primary care providers before their symptoms worsened, and then they went directly to a hospital. Because they perceived the worsening of their symptoms as being due to the failure of their primary care physician, they lost trust in the provider. A patient in Medan explained, "Part of the diagnosis was due to my initiative. I went to the doctor and said my cough is not getting better after having a checkup in many places and consuming medicine. For me, it took one month. I continued to consume medicine, but when I did not feel better, I had to take other action and I went to the hospital."

7.5.2 Finding: Patient preferences for one-stop shops

Patients place a high premium on convenience. They see hospitals as one-stop shops with facilities that are more comprehensive than those of GPs and clinics, and they cite shorter wait times at private hospitals than at public facilities. As a patient in East Jakarta noted, "I went to a private hospital because I can do all the diagnostic tests I need in one place." In addition, a smaller share of private GPs and clinics than private hospitals are under contract to the national health insurance administrator. It may be that in some regions, it is more convenient for patients with national health insurance coverage to find a secondary provider than a private primary care physician. Patients commented favorably on the level of service they receive at private hospitals and perceived the facilities to be better maintained than public facilities. The physicians interviewed were generally responsive to patient preferences and would accommodate patients who requested referral to a specialist.

7.5.3 Finding: In the private sector, patient economics under BPJS-K favor hospitals

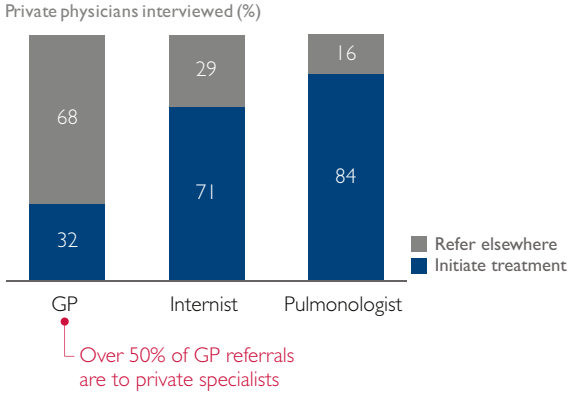
As discussed above, with the advent of BPJS-K, from a patient's perspective, the costs at private hospitals are now comparable with those of public facilities. Given the preferences described above and the ability to access specialists at private hospitals, some patients perceive private hospitals to be a better option than public providers. Meanwhile, many private primary care providers lack linkages with private labs and pharmacies that would allow patients to use BPJS-K coverage. Both of these factors mean higher out-of-pocket expenses for patients at private primary care providers than at private hospitals. A patient in North Jakarta said, "At the private hospital, I can get all the tests and drugs for free with my BPJS coverage. If I go to a clinic, I will have to pay from my own pocket."

7.5.4 Finding: Private provider economics under BPJS-K incentivize secondary care for TB

Private providers are also incentivized to shift patients toward secondary care. For private GPs and clinics under contract to BPJS-K, caring for a TB patient who requires multiple follow-up visits is less profitable than caring for a patient whose condition can be addressed more quickly. However, they might prefer to send TB patients to a secondary care provider rather than a Puskesmas. Patients sent to a Puskesmas might choose to switch their BPJS-K primary care provider to that Puskesmas, at the expense of the private GP or clinic. This is not a risk when referring patients to secondary care. Meanwhile, private hospitals under contract to BPJS-K are reimbursed for each visit patients make. Not only does this mean that their revenues per patient increase with the number of visits, it also means that appointments later in treatment will likely be more profitable for the hospital as they do not need to cover the cost of diagnostic tests or lengthy consultations. Although private hospitals are expected to down-refer TB patients to primary care after diagnosis, many continue to treat them.

Exhibit 7.5.4: Most private GPs refer patients with TB diagnosis instead of initiating treatment

Q. Once you have established that a patient is suffering from uncomplicated TB, what is your next step?



Source: Provider interviews, total physicians across districts = 205. North Jakarta GP = 30; Internist = 5; Pulmonologist = 15. East Jakarta GP = 30; Internist = 14; Pulmonologist = 16. Jember GP = 30; Internist = 3; Pulmonologist = 2. Medan GP = 30; Internist = 14; Pulmonologist = 16.

7.5.5 Finding: Solution ideas raised by review participants to increase down-referrals from private hospitals

The private physicians interviewed did not identify many solutions for increasing down-referrals. Most did not see an issue with TB patients being treated at hospitals if the patients preferred to stay there, and some noted an agreement to this effect with their district Dinas Kesehatan office. There was also limited focus on this among government health officials, although some noted the importance of mapping patient pathways with recommended procedures to identify gaps, and others supported strengthening regulations to impose sanctions on noncompliant providers.

7.5.6 Discussion: Solutions to increase down referrals from private hospitals

Ensuring that TB patients are treated in primary care when appropriate requires changing behaviors of multiple actors: patients, primary care providers, and secondary care providers. Opportunities to intervene with each of these groups are discussed in turn and linkages among the groups are also noted.

7.5.6.1 Solutions targeting patients

The key objectives here are to encourage patients to seek care initially from a primary care physician and to ensure that their treatment is affordable and convenient enough that they do not request referral to a specialist. These objectives could be met in either the public sector or the private sector. Given the scope of this review and the recognition that some patients prefer private providers, the opportunities discussed will focus on private sector TB care.

As discussed previously, reducing the time between symptom onset and the TB patient's initial visit to a doctor could help reduce the number of patients initially seeking care at a hospital or requesting a referral from their primary care physician.

Solution: Assess the effort required to switch from Puskesmas as the BPJS-K primary care provider

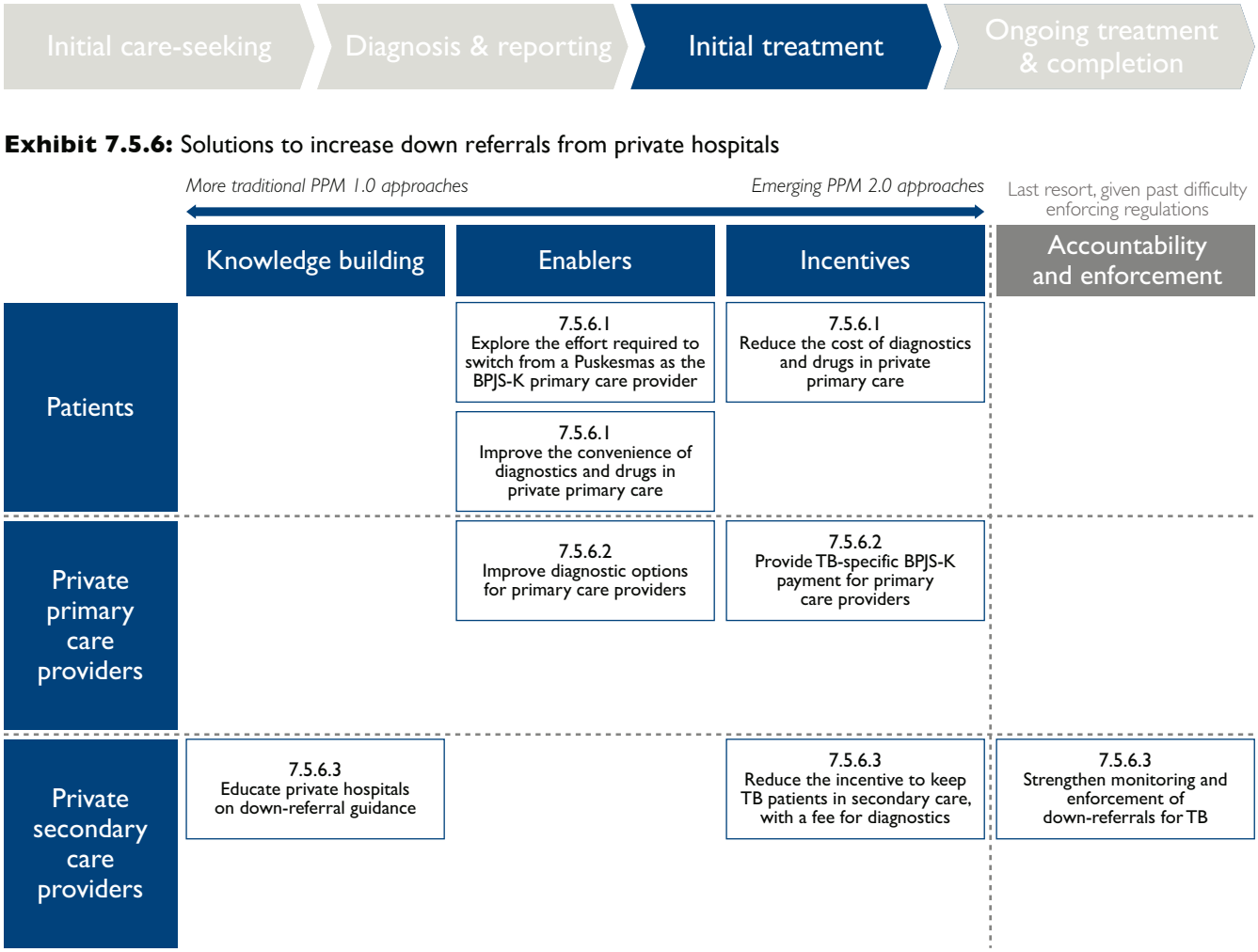


Exhibit 7.5.6: Solutions to increase down referrals from private hospitals

It would be informative to further explore patient perspectives on how their primary care physician was assigned under the national health insurance program and the process for switching providers. One hypothesis is that when they enroll with BPJS-K, patients do not pay much attention to their designated primary care provider—until they need to use their health insurance. At that point, their default provider is a Puskesmas, and it would require some effort on the part of the patient to switch to a different primary care provider. Instead, patients request a secondary care referral from the Puskesmas with which they are registered. Among patients interviewed for this review, 31%—nearly all of whom were enrolled with BPJS-K—initially visited a Puskesmas and then switched directly to a private hospital. Many cited BPJS-K regulations as the reason for their having initially visited a Puskesmas. If the automatic assignment of some patients to a Puskesmas as their primary provider is found to drive patients into secondary care, then adjusting the processes by which patients are assigned and can switch primary care providers under BPJS-K could help keep patients in primary care.

Solution: Reduce the cost and improve the convenience of diagnostics and drugs in private primary care

According to current BPJS-K policies, private primary care providers are meant to pay for tests and medication out of their capitation payment. (See Section 5.) Even if greater effort were placed into developing guidelines or a mechanism to facilitate this process, it is an unattractive solution. The economics of private primary care physicians are already insufficiently favorable to encourage treating TB patients. It is also unlikely that BPJS-K could enforce this mechanism if providers instead required their patients to make out-of-pocket payment.

A number of the potential solutions discussed elsewhere in this section would reduce the cost and improve the convenience of private primary care providers' TB treatment. As discussed above, one option for TB diagnosis in the private sector is to use GeneXpert machines housed in public facilities and private hospitals under contract to BPJS-K. These tests could be provided at no cost to patients by directly reimbursing the facility for diagnostic services through BPJS-K. Likewise, giving private sector patients easier access to government-subsidized drugs through their primary care provider would reduce the cost of medication.

An alternative to these options is to reduce the cost to

patients of obtaining TB tests and medications at the private labs and pharmacies they currently visit. There are several ways this could be approached. For example, BPJS-K could accelerate its contracting with private pharmacies and labs, especially in locations with a high number of private primary care providers. Alternatively, patients could be provided with another mechanism—for example, vouchers—for private labs or pharmacies that would be reimbursed directly by the district health authority or nearest Puskesmas for TB expenses.

Finally, private sector patients should be able to get a diagnosis and TB treatment at the primary care level while visiting as few facilities as possible besides their primary care provider. This would lower the comparative attractiveness of a private hospital, which offers an in-house lab and pharmacy. Potential solutions discussed in Section 7.3, diagnostic infrastructure, and Section 7.6, access to government-subsidized medication, help make primary care as attractive as secondary care to TB patients in the private sector.

7.5.6.2 Solutions targeting primary care providers

The next set of solutions addresses the dynamics that affect private providers and encourage TB care in secondary facilities.

Solution: Improve diagnostic options for primary care providers

The private GPs interviewed for this review were highly focused on making the best clinical choices for their patients. To the extent that private primary care physicians do not trust the TB diagnostic tests available at private labs outside hospitals or feel ill-equipped to make a diagnosis, they are more likely to refer patients to a private hospital for testing. To keep TB patients in primary care, private primary care physicians must be comfortable diagnosing TB. Interventions that provide better options for diagnostic testing or that strengthen the laboratory infrastructure for primary care will help assure physicians that they can reasonably diagnose TB. The solutions discussed in Section 7.3 could therefore also contribute to keeping private sector TB patients in primary care and avoiding the need for down-referrals.

Solution: Provide a TB-specific BPJS-K payment for primary care providers

The primary lever available in terms of incentives is how the national health insurance system compensates providers for treating TB patients. Key Government of Indonesia entities involved in health financing are conducting discussions about the possibility of a specific BPJS-K payment that would provide additional compensation to primary care providers for the time and expenses associated with treating a TB patient. Given that the expenses of primary care providers actually increase if treatment fails and patients return for additional treatment, there may also be an opportunity to emphasize to them the economic benefits of successful treatment.

7.5.6.3 Solutions targeting secondary care providers

Finally, while every effort should be made to attract patients to primary care and keep them there, some patients will continue to seek care at or be referred to a private hospital. In these instances, there are actions that the NTP can take to ensure that private hospitals are aware of when and how they are intended to down-refer patients.

Solution: Educate private hospitals on down-referral guidance

Simplifying the JKN-NTP technical guidance on down-referrals and providing better direction on the recommended process can empower private hospitals. The physicians interviewed for this review generally reported that they follow hospital procedures, so it could be productive for district and TB coordinators to engage local private hospital associations and private hospital management in disseminating guidance to physicians in private hospitals and incorporating it in hospitals' standard operating procedures. While this might increase knowledge of down-referral procedures, it would not necessarily result in greater compliance with the procedures. Changes in incentives are likely needed to change behaviors.

Solution: Reduce the incentive to keep TB patients in secondary care with a fee for diagnostic tests.

Again, reimbursements by the national health insurance system could play a role in incentivizing down-referrals. If TB diagnostic tests were compensated separately from consultations, and thus the profitability of early consultations were increased, that would reduce the relative economic attractiveness of later patient visits and, therefore, the added incentive to retain patients. However, hospitals would still be incentivized to keep TB patients as long as they are eligible for reimbursement for later visits. This would be especially true for physicians working at private hospitals who are paid on the basis of services delivered. Physicians on a fixed salary might be indifferent to whether or not patients are kept at the hospital.

Solution: Strengthen monitoring and enforcement of down-referrals for TB

This is one area in which enforcement and oversight are unavoidable if behavior change is to be realized, but behaviors may be easier to monitor given data already collected by BPJS-K. The NTP could support BPJS-K's enforcement of any existing or new policies on down-referrals by analyzing hospital claims data. Ideally, the NTP could identify hospitals that file more TB claims (and repeat claims associated with individual patients) than would be expected given estimated incidence of TB with complications or drug resistance that should be treated in a secondary facility. In cooperation with district health authorities and the BPJS-K verificator placed at these hospitals, NTP and the district TB coordinator might be able to engage these hospitals in increasing the number of down-referrals and reducing reimbursements for TB cases that should be treated in primary care.

7.6 Opportunity: Facilitate the use of recommended drug dosage and formulations by private physicians

The private physicians interviewed for this review were asked about the regimen they prescribe for drug-sensitive TB, including the drugs prescribed, the dosage for a particular weight band, and the duration of treatment.

7.6.1 Finding: Private physicians typically prescribe HRZE for the recommended treatment duration when initiating treatment of drug-sensitive TB

For drug-sensitive TB, 90% of GPs, 85% of internists, and 90% of pulmonologists reported prescribing isoniazid, rifampicin, ethambutol, and pyrazinamide (HRZE). Of the physicians prescribing HRZE, 17% of GPs, 38% of internists, and 21% of pulmonologists reported that they would also prescribe streptomycin. And 7% of GPs, 9% of internists, and strikingly, 23% of pulmonologists reported prescribing drugs in addition to HRZE and streptomycin. The additional drug prescribed most frequently was levofloxacin, which was cited by 8% of physicians interviewed, including 17% of pulmonologists.

In addition, 81% of GPs, 79% of internists, and 85% of pulmonologists cited a total treatment duration of six months for drug-sensitive TB. Of those who noted a different treatment duration, only 4% reported treatment shorter than six months.

7.6.2 Finding: Physicians do not always prescribe the correct dosage of first-line TB drugs

When asked what dosage of the standard first-line drugs would be prescribed to a patient in a specific weight band, responses varied substantially among the private physicians interviewed. Only 41% to 47% of private

Exhibit 7.6.1: GPs who do treat patients are generally prescribing the right medications

Q. What treatment do you initially prescribe to an adult patient with uncomplicated, drug-sensitive TB?

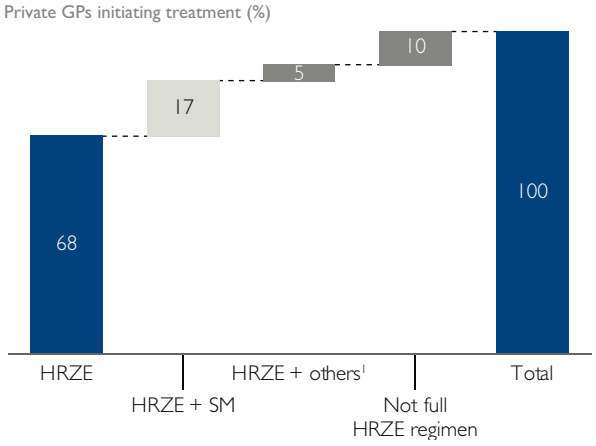
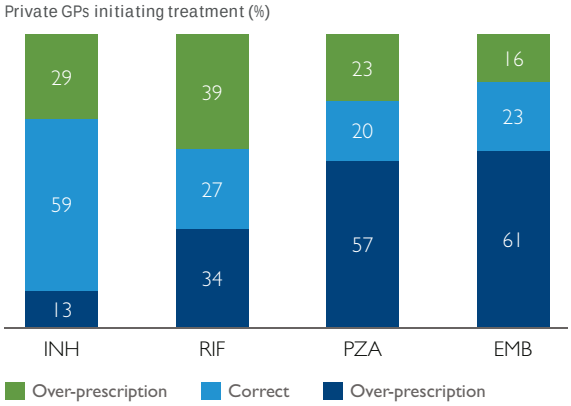


Exhibit 7.6.2: Many GPs are prescribing less than the recommended dosage for loose TB drugs

Q. When initially starting treatment for drug-sensitive TB, what daily dosage would you prescribe for an adult patient weighing between 40-60 kg?



Source: Provider interviews, total physicians across districts = 205. North Jakarta GP = 30; Internist = 5; Pulmonologist = 15. East Jakarta GP = 30; Internist = 14; Pulmonologist = 16. Jember GP = 30; Internist = 3; Pulmonologist = 2. Medan GP = 30; Internist = 14; Pulmonologist = 16.
[1]Medications most frequently prescribed in combination with HRZE are ciprofloxacin and levofloxacin. Medications most frequently not included in regimen are pyrazinamide and isoniazid.

physicians reported prescribing the recommended dosage of pyrazinamide, the remaining physicians prescribing less than recommended (likely due to concerns about toxicity and side effects). Similarly, only 45% of pulmonologists reported prescribing the recommended dose of ethambutol, and this number dropped to 25% and 29% for GPs and internists, respectively. Physicians were much more likely to prescribe the recommended dose of isoniazid and rifampicin—83% to 94% and 71% to 85%, respectively.

7.6.3 Finding: Most private physicians prescribe loose drugs rather than government-funded FDCs

Most private physicians—68% of GPs, 41% of internists, and 58% of pulmonologists—reported using loose drugs at least part of the time. Private physicians discussed a number of drivers for their prescribing preferences. Many said that with loose drugs they could tailor a drug regimen more closely to their patients' needs, reducing side effects and improving treatment adherence. One East Jakarta doctor listed a set of circumstances in which he would use loose drugs, including "complications, bad allergies, trouble sleeping, bad test results, bad blood tests." This was especially common among pulmonologists, who also said that it satisfied patient demand for a higher level of service from a specialist.

In addition, access to government-subsidized FDCs is not available to private physicians who have not been certified in TB care by their district health authority. Government FDCs may also be unavailable to private providers that do not report their TB cases, which many are currently unwilling to do. (See Section 7.4.) Finally, while FDCs can be found in private pharmacies, they are not consistently available and can be more expensive than generic loose drugs. One pulmonologist in Medan complained, "We used to have Rimstar, which has four types of drugs in one pill, which is really helpful for patients. But now Rimstar is no longer available in the market, so we go back to taking handfuls of drugs."

There are clinically appropriate reasons for private physicians to prescribe loose drugs, but their use can be problematic for several reasons. First, many private pharmacies reported that some first-line TB drugs, particularly isoniazid, were sometimes out of stock. Of 16 private pharmacies visited by the review team, 14 pharmacies were out of at least one first-line drug at the time of the visit. If patients cannot access all the drugs that are part of their regimen, they may take only some of the drugs prescribed. This may be why only two-thirds of patients reported taking isoniazid even though 96% of physicians reported that they prescribe it. (Patient recall is also a factor in the accurate reporting of prescriptions.)

Second, the use of FDCs typically promotes treatment adherence as it simplifies treatment for patients and does not allow them to pick and choose which drugs to take. Given the lack of investment in patient adherence in the private sector (discussed below), any measure that supports patient adherence is especially valuable. Finally, patients who are seeing a private primary care provider and obtaining TB drugs from a private pharmacy are likely paying out of pocket even if they are covered by BPJS-K. This is due to the lack of pharmacy contracting and linkage with GPs under contract to BPJS-K, as well as the expectation that patients will use government-funded drugs from Puskesmas. Access to government-funded FDCs would reduce treatment costs for patients and thus reduce the risk of patients discontinuing treatment for financial reasons.

7.6.4 Finding: Solution ideas raised by review participants to encourage use of recommended dosages and formulations

Private physicians mentioned a quick reference guide as the best approach for encouraging prescription of recommended dosages of TB drugs. They said that while the currently available guidance is complete and comprehensive, it is too detailed to provide useful reference on a regular basis. They also suggested that BPJS-K should be encouraged to cover loose drugs, which would reduce the burden on patients to visit Puskesmas for free drugs or to be responsible for out-of-pocket payment. Government officials were more focused on strengthening regulations around drug sales and implementing sanctions on doctors who do not follow recommended regimens. Government officials also raised the idea of a real-time central inventory-monitoring system that would provide data on how many patients are being treated and the treatment regimens prescribed. However, there was discussion about the unclear feasibility of this solution.

7.6.5 Discussion: Solutions to encourage use of recommended dosages and formulations

Although the goal here is to change physician prescribing behaviors, some interventions could also focus on actors other than private physicians. Through this review, providers indicated that they do respond to patient requests when there is an economic incentive to keep the patient and no overriding medical reason to refuse. In the context of other diseases, such as HIV/AIDS, substantial effort has been invested in educating patient communities about specific drugs so that they can request them from

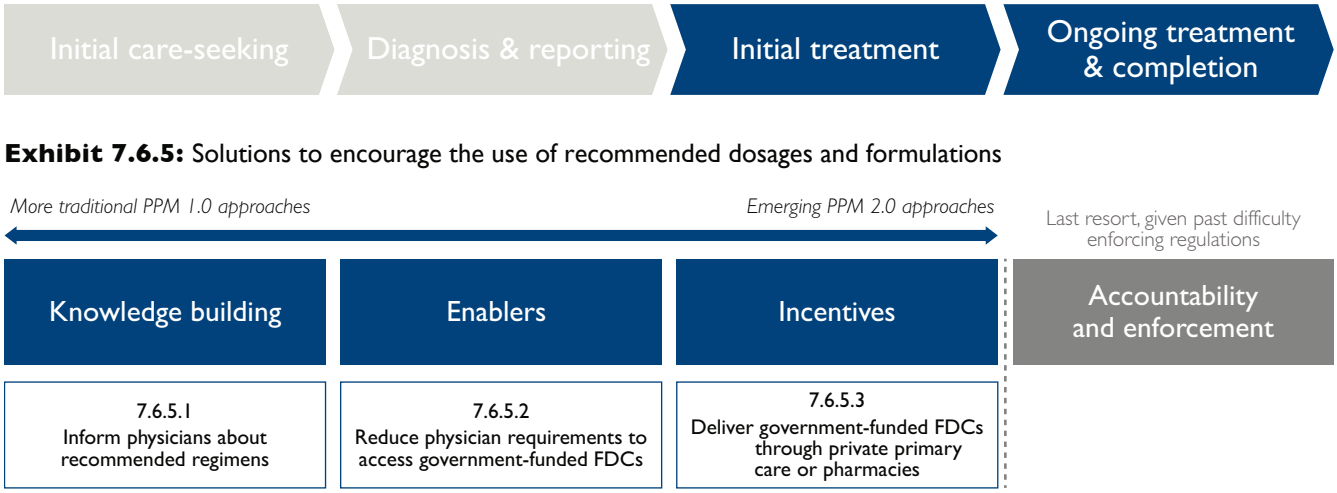


Exhibit 7.6.5: Solutions to encourage the use of recommended dosages and formulations

their health care provider. People living with HIV have a long time during which they can become educated about relevant drug regimens. TB also requires lengthy treatment, and a segment of the patients interviewed in this review were very proactive during this period. For example, a patient in Medan described calling his doctor repeatedly about different options for easing his side effects. Another patient mentioned asking his physician about the streptomycin shots that he knew other TB patients had been receiving. While the primary solutions discussed below focus on physicians, equipping and incentivizing patients to request the recommended medications can also influence physician prescribing behaviors.

The interventions described below focus on two primary areas. The first is ensuring that private physicians write the correct prescriptions for TB drugs, and the second is facilitating access to government-funded FDCs that are already formulated in the correct dosage. Currently, patients of private physicians can access free, government-funded FDCs through two channels: through referral to a Puskesmas for diagnosis and/or treatment or through a hospital pharmacy that has an agreement with their district Dinas Kesehatan.[77] In either case, however, the prescribing physician or hospital must have received additional TB certification training and must have reported the patient's TB case. As discussed above, it is unlikely that both of these conditions will be met. In addition, patients in primary care are expected to pick up their TB drugs from the Puskesmas. As discussed above, patients view Puskesmas as inconvenient, and many think that they provide inferior service. As a result, some patients are reluctant to visit a Puskesmas even if free drugs are available. Therefore, solutions that provide alternative means of accessing government-funded FDCs may help ensure that patients benefit from them.

7.6.5.1 Solution: Inform physicians about recommended regimens

Similar to the knowledge-building interventions discussed above, professional associations, medical schools, and certified private hospitals could contract with the district Dinas Kesehatan or the NTP to develop training for private physicians that covers the recommended dosage and formulations of TB drugs. Such training should include the fact that government-funded FDCs will be made available to patients—currently through the Puskesmas or pharmacies at TB-certified private hospitals—when their physician reports their TB case. Training is only one way to share information, and the physicians interviewed for this review also recommended using multiple channels to share key information, such as posting short videos online, using existing WhatsApp groups for physicians, and developing user-friendly, pocket-sized reference cards.

Educational efforts can ensure that private providers know the recommended prescribing behaviors but cannot guarantee that they will always abide by them. For example, patients often request loose drugs under the mistaken belief that they provide more effective treatment. Interventions such as the online patient portal described above can also help educate TB patients about the FDCs and the fact that these are equal in quality to loose drugs and provide a greater level of convenience. This can reduce the number of patient requests for loose drugs and increase the number of requests for FDCs.

Private pharmacists can be engaged as a channel to reinforce appropriate prescribing behaviors. Seventy-three percent of pharmacists in North Jakarta and 63% of pharmacists in East Jakarta interviewed for this review said that they would try to correct an inaccurate prescription. This was much less common in Jember and Medan: 37% and 23%, respectively. However, many would not recommend HRZE for first-line TB treatment. A worst-case scenario has a misinformed pharmacist undermining a correct prescription by adjusting it to an incorrect dosage. Still, pharmacists who are informed about the appropriate regimen of TB drugs can clarify potentially incorrect prescriptions with the prescribing physician. The recommended TB regimen and the responsibility of pharmacists to clarify potentially incorrect prescriptions

should be integrated into any pharmacist education and outreach efforts, such as those related to physician referrals proposed in Section 7.2.

With regard to trainings for both physicians and pharmacists, issues related to design, funding, and motivation to attend must be resolved for these interventions to be effective.

7.6.5.2 Solution: Reduce physician requirements to access government-funded FDCs

Providers' use of government-subsidized FDCs to treat TB provides a mechanism for ensuring that patients receive the correct dosage in an optimal formulation. However, private providers have little incentive to access government-subsidized FDCs for their patients, and there are barriers in place that discourage them, namely the requirement that physicians complete additional TB certification training and then report their TB cases. The interventions described above to streamline case notification would help reduce this barrier. Eliminating the requirement that physicians participate in additional training would further enhance their access to government FDCs, especially since private providers are already licensed physicians and no similar requirement exists for physicians in public health centers.

7.6.5.3 Solution: Deliver government-funded FDCs through private primary care providers or private pharmacies

In this review, among private hospitals with in-house pharmacies that could access government FDCs, physicians were typically required to prescribe FDCs as a way to reduce hospital costs. Furthermore, most of the patients interviewed were using them rather than exhibiting a strong preference for branded or loose drugs. Meanwhile, some patients choose to purchase drugs from a private pharmacy rather than visit a Puskesmas to get them free. This may be due partly to primary care providers' reluctance to refer patients to a Puskesmas (as discussed in Section 7.5) and partly to patient preferences or lack of awareness that free drugs are available at a Puskesmas. However, patients in primary care could also be encouraged to use government FDCs if access were as convenient as from private hospitals. Two options to achieve this are discussed below.

One possible and convenient way to make no-cost FDCs available to private sector TB patients is by delivering government FDCs directly to the treating physician, so that the patient does not need to visit any other provider, including a pharmacy. This provides the greatest level of convenience for patients but would require physicians either to have in-house pharmacies—as exist at some clinics—or to have permission to dispense drugs. It would also require that either the physician or the district Dinas Kesehatan contract with a logistics provider to manage transportation of government drug boxes, perhaps in concert with a sample transport program.

A second option is to make government FDCs available at a selection of private pharmacies. This is slightly less convenient for patients than obtaining their TB drugs directly from their doctor or the in-house pharmacy at a hospital. However, it would still be an improvement over having to make out-of-pocket payment at a private pharmacy or visiting a Puskesmas to pick up a drug box. Private pharmacies may require compensation for dispensing government FDCs in order to cover their costs and to make selling FDCs as profitable as selling loose TB drugs. However, if pharmacies are compensated for dispensing government-funded FDCs or TB patients purchase enough complementary items, such as vitamins or other products at the pharmacy, this could create sufficient economic incentive that the program could be used to encourage private pharmacies to participate in other types of beneficial engagement—for example, sending staff to trainings or participating in TB suspect referral programs. As in the first option discussed, additional logistics management would still be required to transport government FDCs, but to a small number of large pharmacies rather than to a large number of physicians.

7.7 Opportunity: Increase the emphasis placed on treatment adherence and completion

Among the private physicians interviewed, GPs reported that on average, 19% of their patients either let their treatment lapse or die before treatment is complete.[78] This figure is similar for the private pulmonologists interviewed (20%) and slightly higher among private internists (26% on average). If true, this would imply an average treatment completion rate of 80% across the private physicians interviewed. This is slightly lower than the overall treatment completion rate for reported cases of TB in Indonesia (85% in 2016), but higher than the 60% percent of people in the NPS who ever received treatment and said that they stopped because they were "declared cured by a health worker."[79] While most patients reported having follow-up appointments with their physician at least monthly and rarely missing their medication, there are few mechanisms in place

or opportunities for promoting adherence outside of appointments.

7.7.1 Finding: Little focus on treatment adherence outside of appointments

Only 36% of GPs and internists consistently involve patients' family or friends as treatment observers (though 55% of pulmonologists reported doing so). Likewise, only 18% of GPs, 28% of internists, and 6% of pulmonologists reported that they follow up with their patients outside of appointments—even patients who miss appointments. Doctors recognized that patients' failure to complete their treatment regimen is one of the top three reasons for inadequate TB treatment, but they did not see it as their responsibility to ensure completion. One pulmonologist said, "The hospital team should follow up with patients and address their inquiries. Doctors only diagnose and treat patients." The physicians interviewed said that if a patient stopped treatment, it was his or her personal choice and there was nothing the doctor could do to change it. As one GP said, "If patients stop coming for their regular consultations, I would assume they chose to be treated somewhere else." Internists, and pulmonologists especially, would rather focus on "patients who are serious about treatment."

Doctors are not taking ownership for treatment completion, and there are few other structures in place in the current system to support patients of private providers, especially those treated in primary care. Community volunteers have been engaged to support treatment adherence in select districts, but these programs are still small and focus only on notified patients. In addition, some patients interviewed—desiring privacy and fearing the persistent stigma of TB—expressed dismay at the idea of a community volunteer knowing that they had TB.

7.7.2 Finding: Even with BPJS-K, patients bear a financial burden for TB treatment

As noted above, most of the patients interviewed for this review are enrolled in BPJS-K and use their coverage to pay for their TB care. This covers most of the costs associated with TB diagnosis and treatment. Still, some patients have to make out-of-pocket payment for diagnostics and drugs. And they have to bear indirect costs, such as missed time at work, transportation, and child care. Such costs would be exacerbated by an excessively hospital-based treatment model. Some of the patients interviewed, especially in Medan and Jember, had to travel significant distances for their TB treatment. Patients reported that the monthly transportation costs associated with their TB treatment averaged IDR 120,000. For reference, that is 1.5 times the cost of the monthly BPJS-K premium for the highest class of coverage. Across districts, patients spoke about the challenge of missing work because of their TB appointments. Describing the experience of being diagnosed with TB, one patient said, "I had to take five half-days of leave to meet doctors and then go back and forth to the lab to get my test results." Another patient complained about the limited hours at the Puskesmas near her home, asking, "Why should I have to take a half-day leave for every appointment because my Puskesmas isn't open after office hours?" With these barriers, patients will be more likely to leave treatment, especially once they start feeling less sick.

While this review did not include patients who had let their treatment lapse, this was a topic in the NPS and its findings reinforce the role of financial barriers. For NPS respondents who were diagnosed with TB but not treated, lack of money and lack of transportation were the top reasons. Among NPS respondents who were treated in the private sector but stopped, 9% halted owing to lack of money or lack of transportation. Considering only respondents who were treated in the private sector and stopped before a health worker declared them cured, the proportion that stopped treatment due to lack of money or transportation increases to 23%.

7.7.3 Finding: Solution ideas raised by review participants to increase the emphasis on treatment adherence

Private providers and patients raised a number of ideas, targeted at different actors, for supporting treatment adherence. There was wide interest in solutions that would provide support to patients, including SMS patient reminders, an app that would help patients manage their TB treatment, a call center for answering patients' questions about TB, and a medicine delivery service. It is worth noting that patients were not interested in free-transportation programs if it would mean that the transportation provider would know that they were TB patients. Private providers raised the possibility of dedicated clinic and hospital staff whose job would be to promote patient education and follow-up and advocated for any data system that would lighten a doctor's workload, as well as for BPJS-K coverage for loose drugs and DST.

Among government officials and other stakeholders, solution ideas focused largely on increasing regulatory oversight by, for example, strengthening regulations on drug sales and increasing sanctions on doctors who do not comply with regulations or guidance.

7.7.4 Discussion: Solutions to increase the emphasis on treatment adherence

The potential solutions discussed in this section focus primarily on enabling adherence and incentivizing treatment outcomes.

Knowledge building should not be a primary focus. Most of the patients interviewed for this review reported that their doctor had already informed them of the importance of taking all of their medication. Likewise, the private pharmacists interviewed were well aware of the importance of adhering to TB treatment and are already economically incentivized to communicate this to customers: customers who complete their treatment purchase more drugs from the pharmacy.

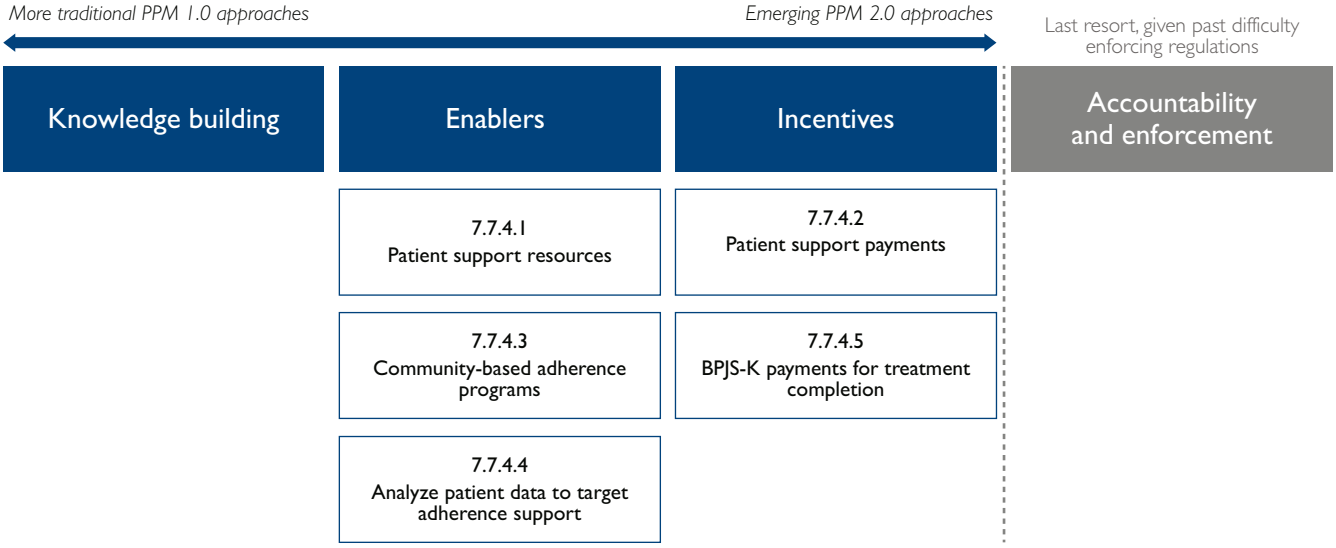
In addition to the solutions discussed below, some of the potential interventions described above would contribute to improving treatment adherence as well. These include those focused on keeping patients in primary care and reducing the cost and increasing the convenience of obtaining medication for those patients, particularly by improving their access to free, government-funded FDCs.

7.7.4.1 Solution: Resources for patient support

Particularly in the private sector, in which there is less of a public health imperative on patient follow-up, patients could be supported through the creation of digital tools for treatment self-management. These could be integrated with the patient portal discussed above in Section 7.1. Tools could include resources such as patient-centered apps for tracking medication and follow-up appointments, SMS appointment reminders, a call center for TB questions, and online social networks that provide peer support. While there is limited literature on the effectiveness of such resources in promoting tuberculosis treatment completion, there is more evidence related to the effectiveness of mobile patient self-management tools for other health conditions, including in developing countries.[80, 81, 82, 83, 84, 85, 86] As noted above, the TB patients interviewed for this review raised several ideas for resources of this kind and indicated that they would make use of them, especially if they are free and easily accessible. The relatively high and rapidly growing rate of mobile phone, smartphone, and Internet penetration in Indonesia would enable access to online tools as well.[87]

To develop such resources for private TB patients in Indonesia, two key questions would need to be addressed: How will resource development and maintenance be funded? And how will patients be made aware of them? Given the possibility of deploying resources to a large number of patients and even using the same platforms across health conditions (with adaptations), this is an area for which national funding would be most desirable. However, it could be difficult for the NTP to fund this directly without donor support. Another option might be BPJS-K funding: better patient self-management would presumably lead to reduced costs for the national health insurance system overall. To the extent that private health care providers are incentivized to support treatment completion through BPJS-K payments (see below), they might also invest in similar resources and services. It is likely, however, that only the largest providers would have the technical capabilities to go beyond existing platforms, such as SMS and social media. Patients must be made

Exhibit 7.7.4: Solutions to increase the emphasis on treatment adherence



aware of these resources and the benefits of using them. One advantage of digital tools is that the same technology that enables the tool can also enable patient and provider outreach, for example, SMS outreach and marketing through social media. To the extent that private providers are involved in developing patient resources, they are also likely to share those resources directly with their patients.

7.7.4.2 Solution: Patient support payments

Furthermore, patients could be supported with financial payments to help alleviate expenses associated with TB treatment. There is some evidence that incentive payments encourage greater treatment adherence for TB and other chronic health conditions, but the design of the incentive is important.[88, 89, 90, 91]

In addition, there is precedent for patient payments in Indonesia, both for TB and maternal health. Until 2012, some MDR-TB patients in Indonesia were provided with vouchers through TB CARE to help offset the costs associated with treatment.[92] More recently, the GFATM provided funding for economic support for MDR-TB patients. Some provincial and local economic support initiatives for MDR-TB patients remain active.[93] Before JKN was implemented, Indonesia's nationally funded Jaminan Persalinan (Jampersal, or Universal Delivery Care) program paid for transportation costs for mothers in referral cases. However, this benefit seemed to be inconsistently implemented.[94]

Patient incentive programs do exist in Indonesia, but there has been difficulty in consistently and sustainably implementing them. Similar to patient resources discussed above, sustainable funding sources and patient awareness are key elements of successful implementation. One option for patients who pay a premium to BPJS-K for their health insurance could be a discount on the premium for the period of their treatment or upon treatment completion. Another option might be to fund payments through district health plans, since most health budgets are allocated through this mechanism. However, outreach and planning assistance to districts would likely be required. As noted above, private providers might also choose to invest independently in patient incentives if they were sufficiently incentivized around treatment completion. Rather than financial payments, provider incentives could take the form of discounts on other services or free food or transportation vouchers. Again, dissemination of best practices in this area would likely be required to prompt implementation and these funding streams are unlikely to result in a program that is implemented consistently across districts. If patients move between districts or providers, their level of support would vary. However, presumably the districts or providers that choose to fund programs like this would be those that see the greatest potential for impact within their local context and patient population.

7.7.4.3 Solution: Community-based adherence programs

In 2012, the Community Empowerment of People Against Tuberculosis (CEPAT) program was launched in Indonesia with USAID support, deploying volunteer community cadres focused on TB in six provinces. Similar cadres continue to operate with GFATM support. In addition to work on community advocacy and proactive case-finding (see Section 7.1), these cadres support TB patients throughout their treatment to ensure adherence and to track patients who have let their treatment lapse. Similar community-based treatment adherence programs have been used in other countries, such as South Africa and Kenya, for tuberculosis with mixed results, as well as for other health conditions, such as HIV/AIDS in South Africa and maternal, newborn, and child health in India.[95, 96]

On the basis of patient feedback and learnings from other community-based programs for chronic disease care, it is clear that expansion of this program would face several challenges. First and most important, many of the patients interviewed in this review expressed substantial hesitation about a community TB cadre volunteer contacting them during TB treatment. Patients still feel that there is a great deal of stigma associated with TB and do not want to be known in the community as having TB. This feeling was especially strong in the two Jakarta districts. One patient in North Jakarta said, "I don't want anyone in my community to know I have TB. I didn't even tell my colleagues in the office." A patient in Jember echoed, "After the doctor informed me that this disease is contagious, he advised me to wear a face mask. The stigma of people is still high, and when we are face-to-face, I can feel the discrimination." The exception was Medan, where 22% of patients indicated that community volunteers helped them continue their treatment and not lapse. However, even in Medan, a segment of patients expressed a preference for communicating solely with their doctor.

In addition to patient preferences, several operational factors should be considered. Given the stigma still surrounding TB in Indonesia, community programs aimed at supporting treatment adherence should be integrated with other health needs so that patients' participation does not make it immediately evident that they have TB. Such integration is imperative also in terms of efficiency. In part because they were a TB-only intervention, the CEPAT projects covered only some 2% of the Indonesian population at a considerable expense. This could mean

integrating TB into other community health worker programs that already exist, for example, expanding the role of Posyandu cadres or incorporating TB into Posbindu trainings. It could also mean expanding the role of TB cadres to cover other health conditions.

Second, community adherence programs are most effective when they are well integrated with the patient's primary care provider and the patient does not see them as replacements for their physician. For example, the community volunteer should be aware of issues—for example, side effects—the patient has raised with his or her physician and provide support that is consistent with the physician's advice. Strong linkages between private providers and community programs would be essential here, but it seems that it would be more challenging to design this for community treatment programs than for case-finding programs. It is possible that private clinics and hospitals with sufficient incentive focused on treatment completion might implement their own programs using nonmedical staff, but it seems unlikely that small clinics and physicians in independent practice would have the scale, patient volume, or resources to justify or create such a program. Another option would be to implement a community-based adherence program through a Puskesmas, funded by district health budgets or BPJS-K payments. Such a program could be made available to private providers as a service for their patients on an opt-in basis. However, to encourage their participation would require outreach to private providers and most likely a similar incentive. However, district-based programs would benefit from scale across a large number of patients while remaining sufficiently local to enable effective adaptation to specific community context and structures.

7.7.4.4 Solution: Analyze patient data to target adherence support

The NTP and district health officials are also well positioned to provide private physicians with data that can help them reach treatment adherence goals. Private pharmacies under contract to BPJS-K could provide data on whether patients have refilled their prescriptions as required; in fact, it is already possible to pilot such a program with BPJS-K hospital pharmacies. Likewise, if online patient support tools were developed, patient usage patterns could be monitored and physicians alerted to a decrease in activity that could signal a lapse. Some large integrated payer-providers in more developed countries are well known for successfully using patient data to identify and resolve problems associated with chronic disease treatment adherence. As TB patient data improves, this will become an opportunity with increased potential for Indonesia.

7.7.4.5 Solution: BPJS-K payments for treatment completion

Finally, the NTP and BPJS-K should explore the use of payments tied to verified treatment outcomes—for example, successful treatment completion—in order to increase the emphasis that private providers place on adherence. This is one area in which Indonesia has an opportunity to be at the forefront of linking reimbursement or capitation payments to patient outcomes, an approach that is now being implemented in a number of European countries. Of note, the second TB payment under PhilHealth in the Philippines is based on treatment completion. Such incentives can motivate private providers to invest in building knowledge around treatment adherence and creating innovative approaches to keep their patients engaged. For example, as noted above, treatment completion incentives could motivate private providers to create resources or other forms of support for patients or to participate in adherence programs administered by Dinas Kesehatan. However, design of such payment schemes is complex and must be carefully considered in order to verify true outcomes, maintain accurate reporting, and ensure that all patients have access to treatment—even those with difficult complications.

8. Discussion: Cross-cutting themes for private provider engagement

Drawing on the specific findings and potential solutions discussed above, this review identified six important implications that are relevant to considerations of ways to improve private sector TB care throughout the patient journey. Each theme is outlined below and discussed more detail.

8.1 Regulation is not a sufficient lever for driving behavior change in the private sector

A strong policy and regulatory framework lays an important foundation by clarifying expected standards and behaviors. However, it is evident that regulation and oversight are not sufficient to drive change in the Indonesian context.

This is not unexpected given the literature on the regulation of private health care markets in low- and middle-income countries, much of which points to limited effectiveness of regulatory controls, including for mandatory notification, specifically, and in the Asian health care sector[97, 98] In Indonesia, private providers commonly treat official regulations and policies as optional because enforcement of these regulations is difficult. Systems are not in place for monitoring compliance, and the consequences of noncompliance are limited. The NTP has no direct authority over health facilities or health care providers. Even at the provincial and district levels, the health officials responsible for TB are part of a division that is not among the divisions that oversee health facilities and individual providers. Furthermore, ultimate licensing decisions are made by provincial and district governments. Any enforcement effort requires coordinated action across multiple stakeholders and therefore is rare and occurs only in the most egregious cases. While consolidating oversight of private physicians and facilities into a single unit at the district and provincial levels might reduce the coordination burden involved in oversight, it would not fully address the issues above. Therefore, effort is better

6 themes for improving private sector TB care throughout the patient journey:

1. Regulation is not a sufficient lever for driving behavior change in the private sector.
2. Incentives have the greatest power to change private sector behaviors.
3. Solutions for private providers must meet private providers' needs: they must be targeted, simple, and consistent.
4. Patients can play an important role in their own care.
5. Diagnosis is a key point of intervention, and improved options are needed, especially in primary care.
6. Increase focus on primary care, improving quality and retaining patients.

Several examples indicate the challenge with regulation and oversight in the Indonesian context:

- In January 2017, Indonesia's MoH issued a decree requiring mandatory notification of TB cases. Even before this, Indonesia had regulations in place requiring notification of communicable diseases including TB. Nearly all the private physicians interviewed for this review said that they are aware of their obligation to report TB cases but still choose not to do so.
- In 2015, the NTP and JKN prepared technical guidance that indicated that private physicians treating TB should evaluate treatment success with a sputum smear at the second or third month, fifth month, and end of treatment. Among private physicians interviewed for this review, only one-third of internists and pulmonologists and less than 10% of GPs reported conducting additional tests to monitor treatment progress.
- During this review, Indonesian members of the review team approached 16 private pharmacies and attempted to purchase TB drugs without a prescription. They were successful in purchasing TB drugs over the counter in eight of the private pharmacies, including at least one in each district, despite regulations prohibiting the sale of TB drugs without a prescription.
- A final example is that JKN guidance currently indicates that private hospitals should refer most TB patients back to primary care for ongoing treatment, and BPJS-K should deny reimbursement claims from hospitals for these patients. Of the patients interviewed for this review, nearly all were treated at a private hospital, regardless of other conditions or complications.

spent on interventions that do not require oversight or enforcement unless absolutely necessary.

8.2 Incentives have the greatest power to change private sector behaviors

Because decisions in the private sector are typically based on the benefits and costs associated with an action, the greatest impact can be realized through interventions that incentivize desired behaviors. Interventions that increase the benefit associated with a behavior or reduce the cost or level of effort required will make it more likely that a private provider or patient will act in the desired way.

8.2.1 Evidence on the power of incentives

Evidence on the use of incentives in global health is still growing, but one comprehensive review of incentives in TB care found indications that performance-based incentives for patients and providers contribute directly to increases in case detection and treatment completion rates.[99] For example, one study in India showed that providing subsidies for travel and food in exchange for being screened for TB—which both lowered a barrier and provided a reward—was a more cost-effective way to increase case detection than active case finding.[100] Furthermore, case-finding payments have been associated with improved case detection rates in several contexts.[101] Outside the TB space, there is some evidence from developed countries that financial incentives can improve the quality of primary health care. Still, though, more rigorous study is required.[102] Financial incentives have been shown to be effective in changing behaviors for at least as long as the incentive persists.[103] The presence of an incentive aligning the interests of a private provider or patient with the desired behavior can even overcome existing barriers—if the incentive is great enough. However, removing those barriers reduces the incentive required. It is generally simpler—though not as powerful—to implement interventions aimed at removing barriers to behaviors than to structure incentives.

In addition, if the economic incentive or other benefits are great enough, a private provider or patient may invest his or her own resources in building knowledge or creating resources to enable a particular behavior and in innovating new approaches to achieve the desired outcome. For example, studies in Haiti and Cambodia indicate that performance-based incentives can be effective in strengthening health services by prompting providers to change the way they operate. However, there is less evidence on which organizational strategies adopted in response to incentives do and do not work.[104] In the TB context in Indonesia, patient adherence and treatment

completion show where this kind of incentive could be applied.

8.2.2 Application of incentives to TB in Indonesia

Given the expansion of its national health insurance system, Indonesia has a particular opportunity to shape incentives for private health care providers. The structure and extent of BPJS-K payments affect the ways private providers make decisions related to TB care. For example, private providers interviewed for this review mentioned several ways in which payment policies affect their decision making. Pulmonologists commented that drug susceptibility testing is rarely performed because of its cost and because its payment would need to be covered by the facility's fixed consultation payment. GPs also expressed hesitation to refer their patients to a public health care center owing to fears that the patient might subsequently switch primary care providers, resulting in the loss of capitation. With the decentralization of government authority and funding in Indonesia, the health insurance system also provides one of the highest-scale opportunities to influence a large number of patients and providers. In particular, a performance-based BPJS-K payment upon treatment completion for notified TB cases seems especially promising: it could incentivize both case reporting and increased focus on treatment adherence among private providers. Discussions ongoing among key Government of Indonesia entities involved in health financing and supported by USAID, World Bank, Abt Associates, and Results for Development in partnership with the National Social Security Council of Indonesia are focusing on ways to strengthen strategic purchasing under JKN through a participatory process. As part of this process, the NTP has a significant opportunity to collaborate with these stakeholders to design and deliver insurance frameworks that reinforce optimal TB care in the private sector. However, the potential impact of these interventions means also that they must be carefully designed and tested.

Incentives are not effective in every situation and there are pitfalls—some of which are applicable to TB in Indonesia—that should be considered. Offering incentives in the private sector only might draw physicians, many of whom already practice in both the public and private sector, to spend more of their time in private facilities. Furthermore, incentives can lead providers to focus only on the specific behaviors that are measured and rewarded at the expense of activities that are important but more difficult to track. Finally, incentives can lead to false reporting unless there are means for verifying claims. New incentives must be designed carefully to avoid these issues. Also, given the reality of budget constraints, potential solutions should aim to shape incentives and remove barriers in a cost-neutral way where possible, focusing on shaping existing market incentives and public financing flows.

8.3 Solutions for private providers must meet private providers' needs: they must be targeted, simple, and consistent

Throughout this review, both private providers and patients expressed preferences for convenience and a desire for solutions that reduced their required level of effort. For example, private physicians said that the time required deterred them from reporting TB cases and from following up with patients outside of appointments. And many of them asked for case notification solutions that would reduce the time required to report a TB case, commenting on the length and unusability of the current national TB guidelines document. In addition, private physicians and hospital administrators said that programs and interventions should be offered consistently and available for open enrollment and that it should be easy to tell what options are available to them and how those options can be accessed. For private sector patients, these preferences were evident in their selection of primary care facilities, specifically choosing those close to home where the waiting time was comparatively short. The private sector patients interviewed for this review also discussed their preference for facilities with in-house labs and pharmacies that have everything they need in one place.

This preference for simplicity and convenience was sufficiently strong among the interviewees in this review that it seems to override other incentives. For example, among private physicians, the prospect of access to government FDCs is not always sufficient to motivate them to participate in TB training and report their TB cases. Among the private sector patients interviewed, some chose to purchase TB medicines at a nearby private pharmacy rather than visit a Puskesmas for free medicines. This has important implications for the design of interventions intended to engage the private sector, especially those that do not have a strong financial-incentive component. In order to encourage particpation, solutions must be tailored to private sector needs and must meet the desire for simplicity and consistency.

8.3.1 Example: Design of knowledge-building interventions for private providers

For example, these principles can be applied to the design of knowledge-building solutions intended to raise private physicians' awareness of specific standards and desired

behaviors. Such solutions might include physical or online training sessions; development of patient and provider social networks; information sharing through professional associations, traditional media, social media, and other online sources; and the development of reference guides, videos, and other materials for reinforcing learning.

As discussed in Section 1, there have been prior efforts in Indonesia to train private providers on the ISTC through professional associations. Those efforts were funded largely by international donors and focused on private hospitals and specialists. However, the programs have suffered from inconsistent funding and have not scaled beyond a small number of doctors or across all provinces. It is difficult for private physicians to know what trainings they can participate in and when they will be available. In addition, doctors do not always perceive training interventions as effective or a good use of their limited time.

The providers interviewed for this review emphasized that trainings and resources should be targeted, short, and tailored for the private sector. When possible, they should integrate multiple topics relevant to a single provider group in order to make the most efficient use of time. This does not, however, mean that training or information campaigns need to be entirely comprehensive across all aspects of TB care. Indeed, they should focus on practical steps and pathways rather than large amounts of theory. As described in Section 7, most of the private providers interviewed for this review indicated that they already have clinical knowledge of recommended TB care practices. Although there are gaps in their knowledge, they are in specific areas (for example, less common TB symptoms) or practices that physicians consider outside their typical role (for example, patient follow-up). Knowledge-building interventions for the private sector should therefore be targeted toward topics about which there is evidence of a gap in knowledge or there has been a change in policies or recommended practice. This acknowledges private providers' incoming foundation of medical training and focuses energy on the most critical areas. As part of the PPM coalition in each district, professional associations can play an important role in identifying the most critical areas to cover for their private provider members.

Trainings or other resources should be developed in concert with potential participants, with particular attention paid to customization that meets the needs of different provider subgroups, such as GPs and internists or chain pharmacy personnel and drug shop staff. District-based PPM coalitions should incorporate these considerations as they develop area-specific plans to engage private providers. For example, the private physicians interviewed for this review suggested alternative approaches to information sharing beyond group trainings and WhatsApp and Line groups. These include facilitating mentorship pairings of new and experienced doctors, particularly outside hospitals, as well as informational resources that would be useful in day-to-day practice, such as a pocket-sized reference card on key aspects of TB clinical guidelines and an instructional video on how to take a sputum sample.

Finally, a consistent source of domestic funding for knowledge-building programs is critical to ensure they are consistently available for open enrollment and that private providers are not required to continually search for programs that are open to them. Four possible sources of funding to consider are government—district, province, and BPJS-K—funds, membership fees to professional associations, participant fees, and corporate partnerships. Membership and participant fees appear to be the most promising option given the opportunity they present for self-sustaining and more standardized programs. However, this would also require much greater emphasis on TB training in Indonesia's continuing-education requirements to generate demand sufficient to make these programs viable on a self-funded basis.

Corporate sponsorships by companies that manufacture TB drugs or medical devices or are seeking greater exposure for other products could be promising sources of funding. In South Africa, for example, pharmaceutical companies are enlisted with some frequency in sponsoring clinician trainings on new antiretroviral drug regimens delivered by the Southern African HIV Clinicians Society. In Indonesia, up to one-third of private physicians interviewed in this review reported that they already get information about TB care from pharmaceutical companies, as did one-third of private pharmacists interviewed. However, this funding is not consistent and effort will be required to negotiate sponsorships. Capacity-building targeted specifically at attracting and managing such partnerships would likely be required. In addition, corporate partners might not be interested in all relevant areas requiring knowledge building, and some interventions may need to be delivered independently to avoid the appearance of favoring a specific company. This funding stream should be considered as a way to augment or subsidize offerings, not as the primary source.

Finally, given that most government health funding flows through the health plans throughout Indonesia's 514 districts, it is unlikely that this will be a practical source of funding for any sort of consistent or standardized knowledge-building effort, although it could support area-specific plans developed by the PPM coalition in each district. Greater consistency could be achieved through funding at the provincial level, but provincial budgets

are substantially smaller. BPJS-K could set aside funds for these programs at a national level, but a clear case would need to be made that the programs do result in increased knowledge, lead to improved quality of TB care, and ultimately result in lower costs.

This is just one example of the considerations involved in designing solutions that can improve TB care among private providers and that meet the needs of private providers and patients. The private sector's demand for simplicity and consistency should be applied to the design of any solution intended to engage private actors, including incentive programs, coalition building, and case notification processes. It is critical that solutions be designed with further input from intended participants to ensure they are tailored to the needs and preferences that are specific to certain solutions.

8.4 Patients can play an important role in their own care

It is important not to underestimate the role of patients throughout their experience of TB care. While provider behaviors are clearly critical drivers of TB outcomes, both patients and providers interviewed in this review indicated the importance of patients being active participants in their own care. First, patient knowledge and norms are key factors in how quickly TB symptoms are examined and diagnosed. Patients' clear preferences related to cost, convenience, facilities, and service are behind their choosing to seek care at a public or private facility and whether they visit a hospital or primary care provider. When it comes to diagnosis, some private physicians indicated that they might use nonrecommended tests such as IGRA for patients who expect a more "sophisticated" blood test. The private lab administrators interviewed indicated also that patients who are making out-of-pocket payment and are concerned about cost might negotiate the number of tests—for example, one smear instead of two or three—to be performed. Similar themes were heard concerning the TB drugs prescribed: private physicians indicated that they sometimes prescribe loose drugs because patients believe a "tailored" regimen will be more effective. Some patients are very proactive in following up with their doctors, texting or phoning to get suggestions and ask questions. One patient described continually advocating for a specific injection that he had heard had been administered to other patients—even to the point of contacting the district health authority. Another said that he consulted with his doctor by phone almost every night.

These findings point to both the opportunity and risks of patients who are engaged in their own TB care. As discussed in Section 7.1, when equipped with accurate information, patients can make good choices for themselves and also help reinforce desired behaviors. Especially in the private sector in which physicians, labs, and pharmacies all rely on patient volume to generate revenues, patient preferences can be a strong incentive. However, patients' lack of appropriate information can have a negative effect on not only their own behaviors but also the decisions that providers make. Patients can be enabled through campaigns and resources that share accurate, user-friendly information about TB, but it is important to design the format and channels for these interventions in collaboration with the target audience. For example, the patients interviewed for this review paid for their treatment at private providers with BPJS-K insurance or made out-of-pocket payments, indicating that they have either the savvy to enroll in the national health insurance program and/or the economic means to afford out-of-pocket payments. Patients also reported monthly household expenditures of IDR 3 million on average, similar to the Indonesian national average. Public information campaigns should be tailored to acknowledge the socioeconomic status and likely education level of these patients.

Reaching the general community with such messages is difficult, since most citizens are not focused on TB. However, other approaches physicians can use directly with their patients—for example, outlining the existence and reasons for certain standard practices as endorsed by government and professional associations—could help private physicians overcome some of their clients' more negative preferences. In addition, tools designed to support patients' treatment adherence can help reinforce messages delivered by doctors.

8.5 Diagnosis is a key point of intervention, and improved diagnostic options are needed, especially in primary care

As discussed in Section 7.3, obtaining a diagnosis of TB is one of the key challenges for private sector TB care. Even many patients who visited a physician had to see multiple providers before being diagnosed with TB. In a private primary care facility, patients were commonly referred to a private lab or a private hospital for diagnostic tests. Private primary care physicians were often wary of their ability to obtain a clear diagnostic test result, especially given certain practices at private labs. Furthermore, it was not uncommon for patients referred to private hospitals for diagnostic testing to be kept there for their continued treatment rather than returning to primary care. However,

many patients who were referred to a private lab found that they had to make out-of-pocket payment for diagnostics.

All these challenges contribute to extending the time between TB onset and patients' initiating treatment. It can also make patients skeptical about the quality of their health care and less likely to follow instructions and stay with one provider. Clearly, solutions to improve diagnostic options in private primary care will be critical, especially given private sector patients' perceptions of public facilities and their reluctance to visit them.

Further expansion of GeneXpert to the private sector could play an important role in improving diagnostic options in private primary care. Indonesia has already made substantial investments in rolling out GeneXpert across public facilities, and some private hospitals are now planning to invest in GeneXpert as well. This support could be enhanced by providing private providers with access to preferential public sector pricing for equipment and test consumables—as currently planned by the NTP and CTB. Public sector leadership in this area could help avoid the pitfalls that have occurred in some countries when lack of intervention resulted in inflated prices that limited GeneXpert access. The NTP should assess the optimal model for placing GeneXpert in the private sector while monitoring and controlling prices.

Once GeneXpert is in place, it will be possible to leverage BPJS-K payment policies to encourage private providers to use it. A sufficient reimbursement for GeneXpert, coupled with favorable public sector pricing for cartridges will encourage private facilities to invest in the machine, market it to smaller providers, and invest in infrastructure that facilitates its use. A sample transport network will be a key piece of this infrastructure for reducing the burden on patients to visit multiple facilities and the likelihood of their being absorbed into a private hospital for treatment. District-level PPM coalitions can play a key role in encouraging the use of GeneXpert infrastructure.

Prioritizing GeneXpert would move the private sector toward the future of TB diagnosis, avoid the difficulties of establishing quality assurance for smear testing in the private sector, and give primary care physicians greater confidence in test results and their ability to diagnose. There are likely some locations where the projected volume of TB tests is insufficient to justify investment in GeneXpert, even across a district, but there is still an existing market for private labs. In these cases, a multidimensional approach could be employed to strengthen the quality of private labs as part of a holistic effort with TB testing as one component.

In these locations, private labs could be motivated to invest in quality improvement through the promotion of such incentives as allowing BPJS-K fee-for-service reimbursement at quality-assured private labs, linking participation in PME certification to lab licensing, or publicizing a list of quality-assured labs to private physicians through professional associations or the Dinkes website. Such incentives would encourage private labs to participate in the existing, but currently optional, PME program. If the incentive is sufficiently strong, private labs could choose to invest in training or other resources for their staff, providing a revenue-generating opportunity for local professional associations and educational institutions.

8.6 Increase focus on primary care: improving quality and retaining patients

Historically, private provider engagement in TB in Indonesia has focused on private hospitals and pulmonologists. This was a logical starting point: these facilities and providers see a much higher concentration of TB patients than GPs. However, for the majority of TB patients, it is preferable on two dimensions that TB care be delivered by a primary care provider. First, many patients visit a private hospital only after their symptoms have progressed or they have visited multiple providers and failed to get a correct diagnosis. Appropriate treatment in primary care will interrupt transmission faster. Second, treatment in hospitals could result in poorer patient outcomes owing to less emphasis on treatment adherence and the increased time and financial burden on patients if longer travel to the hospital is required.[105] Furthermore, hospital treatment is significantly more expensive than primary care, and, given that nearly all the interviewed TB patients who are enrolled in the national health insurance system use it to finance their TB care, this would have substantial implications for the national health insurance system as coverage increases.[106] This has two implications: intervention is required to keep patients in primary care, and private provider engagement efforts should increasingly focus on primary care providers in order to impact the largest number of TB patients.

As increasing numbers of TB patients are treated by primary care providers, it will become even more important that they receive high-quality care from GPs. Among the private providers interviewed for this review, many GPs indicated that they use recommended practices for TB care, but in some areas, the percentage of GPs who follow recommended practices is lower than the corresponding figures for internists or pulmonologists. Specifically, GPs are substantially less likely to use a sputum smear than internists or pulmonologists—60%

versus 92% and 84%, respectively. And fewer GPs conduct follow-up testing to monitor treatment progress and to notify the district health authority of their TB cases.

It will require an integrated set of solutions to direct TB patients to primary care, keep them there, and ensure that they receive high-quality care. This will mean covering the entire patient pathway at the primary level, including seeking health care, diagnosis, drugs, adherence, and monitoring. Solutions must accommodate patient preferences and account for patients' and providers' economic incentives.

Interventions that raise awareness of TB symptoms and promote active screening for TB can reduce the delay between symptom onset and first physician visit, making it more likely that patients see a primary care provider, given that they will be seeking care when symptoms are still less severe. BPJS-K policies also funnel patients to primary care providers for their initial visit. However, many of the patients interviewed then transferred to a hospital. Continued pursuit of Indonesia's universal coverage goal will have the indirect effect of directing patients (in general, not TB patients) to primary care and enforcing the role of primary care as a gatekeeper. This will be more and more important for BPJS-K as a cost-containment measure.

Some patients visit primary care initially, and the challenge is to keep them there. As discussed in Section 8.3 and in the section directly above, improving diagnostic options for primary care providers will increase their confidence in their ability to diagnose and treat TB. Diagnostic options must be more convenient and more affordable for patients in private primary care. Otherwise, patients are referred to private hospitals, after which patients and the hospital typically prefer for them to stay there. There are multiple avenues to improve access to TB diagnostics in the private sector. Two promising options are to expand GeneXpert access in the private sector—coupled with a well-functioning sample transport mechanism—and to expand BPJS-K contracting with private labs that undergo quality certification. For a durable solution, both the access and financing issues should be tackled.

Accessing diagnosis in private primary care was especially challenging for patients interviewed in this review. Establishing a convenient and affordable way for patients to access TB drugs would help make primary care more attractive relative to private hospitals—at least for patients with national health insurance, who can currently obtain drugs at no cost from in-house hospital pharmacies. Making it easier for private sector patients to access government-subsidized drugs from their primary care provider—a goal of the WiFi TB app—should help with this, as well as supporting accurate dosing through greater availability of FDCs.[107] Another option is to expand BPJS-K enrollment of private pharmacies that agree to participate in training and referral programs. One option for funding these training programs is through BPJS-K at a national level. Another option is to charge pharmacies a fee for participation. As discussed above, pharmacies' willingness to buy into these training programs would likely depend on the business they can expect to receive as as result of their BPJS-K contract. Government FDCs could also be placed at certain private pharmacies to further expand access. These options would help ensure that patients have access to no-cost FDCs in the private sector outside of hospitals.

Private provider economics must be adjusted to keep patients in primary care. Currently, private primary care providers enrolled with BPJS-K have no incentive to keep TB patients: they receive the same capitation payment but must conduct multiple consultations with the patients, increasing their costs. As a result, private primary care providers refer patients to private hospitals and are especially happy to do so when the patient requests it, as many do. They are less likely to refer patients to a Puskesmas, both because of patients' reluctance to visit a public facility and because of the possibility that the patients will transfer their BPJS-K registration to the Puskesmas, reducing the private provider's capitation payment. Adjusting the way primary care providers—and secondary providers, as described below—are compensated by BPJS-K for treating TB patients can encourage them to keep TB patients in primary care. For example, supplemental payments for successful TB treatment completion could be considered. There is precedent for such payments, such as the noncapitation payments offered to primary care providers through BPJS-K for performance related to maternal and child health. As a general concept, capitation payments are not well suited to addressing relatively rare health conditions that require time-consuming care.

Even if steps are taken to funnel TB patients to primary care and keep them there, it is inevitable that some patients will seek care directly from a private hospital or need to be referred to one. Currently, economic incentives for private hospitals encourage them to keep TB patients—even when it is not medically required. For all patients—those paying with national health insurance and those making out-of-pocket payment or paying with private insurance—private hospitals benefit from the revenue they receive for each patient visit. For patients with national health insurance, private hospitals are especially incentivized to keep less complicated TB patients and to keep them for later visits. With fixed reimbursement for patient consultations, interactions with

these patients are more profitable for the hospital: they involve less physician time and fewer costly diagnostic tests. Again, adjusting the way hospitals are compensated by BPJS-K can reduce the economic incentive to keep patients with uncomplicated, drug-sensitive TB in secondary care. For example, compensating private hospitals separately for TB tests increases the profitability of initial diagnostic consultations and reduces the need to cross-subsidize these visits with more profitable consultations later in treatment. However, while incentives can be adjusted, without greater enforcement, it will be difficult to completely eliminate the economic benefit private hospitals receive from each additional patient visit. This is one area in which enforcement of down-referral policies by BPJS-K verificators will be required in order to achieve a real change in behaviors. For example, the use of simple algorithms could detect disallowed repeat outpatient visits at the hospital level. Possible opportunities for adjusting private provider economics to promote TB treatment in primary care were discussed above in Section 7.5.

Finally, if the NTP and BPJS-K are successful in keeping most TB patients in primary care, efforts should be taken to strengthen areas in which private primary care providers are not providing optimal care. As discussed above, there are a number of ways that knowledge-building programs can be implemented. These should focus specifically on GPs and a targeted set of topics, particularly those associated with screening and diagnosis, case notification, and strategies for encouraging treatment adherence.

9. Conclusion

The purpose of this review was to develop additional insight into the drivers of patient and provider behaviors in the private sector. The goal was that this would contribute to efforts for engaging private providers in the fight against TB in Indonesia. The research has revealed several areas in which the current state of the private sector is perhaps better than might have been expected. Most private sector patients interviewed were using BPJS-K coverage to pay for their TB care, which was most frequently initiated at a primary care provider; and private physicians reported using recommended TB diagnostic tests and prescribing the recommended first-line drugs and treatment duration. The review identifies a number of opportunities, particularly related to reducing the time from symptom onset to diagnosis, supporting treatment in primary care, reducing barriers to case reporting, incentivizing both case reporting and attention to treatment adherence among private physicians, and supporting adherence by facilitating access to government-funded FDCs.

Conversations with patients, providers, and other stakeholders have informed a set of potential solutions that could strengthen such concerns as private primary care for TB, diagnosis in the private sector, and treatment adherence. Many solution options are discussed in this report, but cutting across those themes are several promising approaches for engaging the private sector. First, BPJS-K payments can act as a critical lever for influencing private provider behaviors, both in terms of provider responsiveness and the acceptability of financial incentives delivered through BPJS-K to other government stakeholders. This should be a core part of the Government of Indonesia's strategy for reducing the number of missing cases from private providers and ensuring that Indonesia maintains a high treatment success rate. In addition to incentivizing private providers, ensuring that solutions are as simple and straightforward as possible will reduce the burden on private sector actors, increase the likelihood that workable solutions will be adopted, and can reduce the incentive required for adoption. Furthermore, interventions focused on private sector patients can also help improve outcomes. Both patient and provider interviewees reinforced the extent to which patients in the private sector proactively influence their own care, whether by switching physicians, negotiating diagnostic payments, or demanding certain drug regimens. Efforts to educate and provide resources for TB patients can help them act as a check on private providers' behaviors.

Given the evidence on treatment outcomes in primary facilities in comparison with secondary facilities and the added cost of secondary care, especially within the BPJS-K system, action is required to keep private sector patients in primary care—where appropriate. Addressing the quality of diagnostic options for private primary care providers should be a key leverage point in keeping TB patients in primary care, rather than losing them to private hospitals, where a greater focus on enforcement of down-referral policies would be required to shift patients back to primary care. Likewise, given the challenges associated with oversight and enforcement in Indonesia, meeting patients' preferences for convenience and affordability is critical for facilitating primary care for TB. Across these areas of intervention, it is important to be realistic about how much control can be exerted over the private sector. The resulting interventions may result in a less controlled TB cascade than in the public sector but will offer far more visibility into private sector TB care

and much greater ability to influence outcomes positively and in a sustainable way.

These opportunities require additional analysis and planning to determine how they might best be addressed and further exploration will be critical. Much is still unknown about TB care in Indonesia's private sector and there is substantial variation in the dynamics of the TB epidemic and response across Indonesia's 514 districts. The planned district-based approach to engage private providers will help address these variations in context as local coalitions develop plans specific to each district. However, as specific solutions are developed and refined, private sector patients and providers should be at the core of that development process. This will ensure that the solutions meet their needs and are grounded in an understanding of how each intervention interacts with current preferences and incentives. Ideally, this review provides a set of priority areas to test and explore as Indonesia's NTP and district-based coalitions further define their private provider engagement strategies. It is clear that engaging the private sector will be critical to winning the fight against TB in Indonesia. This will require thinking creatively and expansively, using new approaches that put patients and providers at the center of tuberculosis control strategies, and addressing the dynamics and incentives that shape behaviors.

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30. *Ibid*.

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32. Indonesian Medical Association (IDI), Association of GPs (PDUI), Association of Pulmonologists (PDPI), Association

of Internists (PAPDI), and Association of Indonesian Private Hospitals (ARSSI).

33. Society Welfare Health Network (JKM) and Nahdlatul Ulama Health Institute (LKNU).

34. Of 204 patients interviewed, 30% were recruited at a private hospital, and it can reasonably be assumed that those patients were receiving their TB treatment there. Some 50% to 55% of interviewees were recruited by knocking on doors, and it can be assumed that the same proportion would be treated in a hospital as that of the private sector patients in Indonesia's NPS. Some 15% to 20% of interviewees were recruited through snowballing, 20% to 30% of which started from a private hospital physician or patient. Conservatively, it can be assumed that, similar to the NPS, all the patients recruited through a private hospital snowball were treated at a private hospital and that the remainder were proportionally divided between hospitals and primary care.

35. In Jember, this was relaxed to one TB patient per month in order to accelerate recruitment.

36. Private laboratory administrators were selected for interviews to provide perspective on overall laboratory operations, as well as TB testing procedures. Of the 70 laboratory administrators interviewed, 91% also had qualifications as a health analyst or pathologist.

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45. JKN regulation No. 28 tahun 2014.

46. BPJS-K Panduan Praktis, "Penjaminan Pelayanan Kesehatan."

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48. BPJS-K website, confirmed through direct outreach to listed BPJS-K pharmacies and major Jakarta laboratory chains.

49. The exception appears to be private pharmacies that participate in the Program Rujuk Balik, which allows for their reimbursement for medications for ten chronic conditions—for example, hypertension and diabetes mellitus—if the patient has a prescription. TB is not included in this list of conditions.

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52. A private laboratory that participates in the PME quality assurance system program for TB is also acceptable, but this is rare. PME is a program in which laboratory quality is verified by an independent third party using methods such as blind rechecking and cross-checking of test results, laboratory staff training, and proficiency testing.

53. Theoretically, drugs obtained at a private pharmacy could be eligible for national health insurance coverage. However, in practice, few private pharmacies are under contract to BPJS-K, and TB drugs are not covered for those that are. In addition, no standard mechanism exists for drug payment to be made out of a private GP's capitation payment. Some private hospital pharmacies contracted with BPJS-K do cover the cost of TB drugs out of the hospital's INA-CBG payment; this encourages hospitals to undergo DOTS certification and engage with Dinas Kesehatan in order to access government-funded FDCs and reduce their own costs.

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