

Can public–private collaboration promote tuberculosis case detection among the poor and vulnerable?

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Abstract Private–public mix (PPM) DOTS is widely advocated as a DOTS adaptation for promoting progress towards the international tuberculosis (TB) control targets of detecting 70% of TB cases and successfully treating 85% of these. Private health care plays a central role in health-care provision in many developing countries that have a high burden of TB. It is therefore encouraging that PPM projects are being set up in various countries around the world to explore possible interaction between the national TB programmes and other partners in the fight against TB. The objective of this review was to use the published literature to assess the range of providers included in PPMs for their ability to provide case-detection services for the vulnerable. From a case-detection perspective, we identify the essential elements of a pro-poor PPM model, namely, cost–effectiveness from a patient perspective, accessibility, acceptability and quality. The review revealed that a very large part of the total spectrum of potential PPM-participating partners has not yet been explored; current models focus on private-for-profit health-care providers and nongovernmental organizations. We conclude that it is important to think critically about the type of private providers who are best suited to meeting the needs of the poor, and that more should be done to document the socioeconomic status of patients accessing services through PPM pilots.

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يمكن الاطلاع على الملخص بالعربية في صفحة 757.

Introduction

Tuberculosis (TB) is the cause of 1.8 million deaths annually; 98% of these occur in developing countries¹ and among the poorest people of these countries. Studies in both low- and high-income countries demonstrate that rates of TB are significantly higher in poorer populations.² In 1991, WHO introduced DOTS the global strategy for the provision of TB services; it was expected that this would be delivered primarily through government-run public health services.

The DOTS strategy included process targets of detecting 70% of TB cases and successfully treating 85% of these by 2005. In 2000, treatment success was 80%, while case detection in 2001 was only 32% of estimated smear-positive cases; by 2003 these figures had increased to 82% and 45%, respectively.^{3,4} The strategy clearly had some success in increasing the detection and cure of TB, but because progress towards the targets was slow, DOTS expansion strategies were developed.

One such strategy is public–private mix (PPM) DOTS. Private health care plays a central role in health-care provision in many developing countries that are burdened by TB. For example, 79% of first-line health care in Pakistan is provided by private practitioners (PP), and in India 60–80% of out-patient health care is provided on a private basis.^{5–8} Patients often prefer PPs as, in comparison to the public sector: they are courteous, provide convenient services and offer flexible payment options.⁹

PPs have diverse qualifications and range from traditional healers and minimally-trained paramedical practitioners through to qualified doctors and specialists.^{10–12} Their patients are likewise diverse and vary considerably across the socioeconomic spectrum. Generally, the specialized practitioners tend to treat more affluent patients, while less well-trained, paramedical practitioners and healers tend to treat poorer patients.^{11,12}

Most PPs are currently poorly regulated^{13–16} as developing country governments do not have the resources to monitor the quality of private health-

service provision. Conflicting interests and mutual distrust between the public and the private sector are cited as two of the reasons for limited regulation of the private sector:¹⁷ “who inspects the inspectors? — many of them are also health professionals.”¹⁵ Consequently there has been little interaction between the public and private sectors; however, this is changing. According to the New Delhi Stop-TB Partners Forum in February 2004, more than 20 PPM DOTS projects had been launched in 13 countries and evaluation data are available for 16 of these.¹⁸ Furthermore, India and the Philippines have developed PPM policies and are scaling-up.¹⁸ It is therefore timely to focus on the impact that PPM DOTS can have for those who are known to bear the highest burden of TB morbidity and mortality: the poor and vulnerable. This paper will focus on case detection. Issues related to the ongoing debate about drug management, clinical perspectives and quality assurance linked to private TB care will therefore only be briefly touched upon.

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The objective of this paper was to use the published literature to appraise the ability of PPM providers to provide case-detection services with diagnosis by sputum smear microscopy for the poor and vulnerable.

Methodology

Literature was gathered from the WHO web site and from PubMed.

The WHO web site was searched in May 2005 when using the term “PPM”. The key web page (http://www.who.int/tb/dots/ppm/journal_articles/en/index.html) provides titles of all relevant articles in English published from 1991 to 2004. An additional site (<http://www.who.int/tb/publications/ppm/en/index.html>) yielded all English language documents published by WHO between 1997 and 2004.

PubMed was searched in May 2005 using the following terms in English: “PPM”; “private healthcare provision”; “TB”; “equity”; “access”; and “poverty and vulnerability”; dates were limited to between 1991 and May 2005. The literature used in our review was grouped according to themes generated through iteration between the authors and key informants at WHO, during writing of a critique of PPM for the Millennium Development Project,¹⁹ and during interaction at the PPM Symposium at the 2004 Conference of the International Union Against Tuberculosis and Lung Disease (IUATLD).²⁰ These themes are framed by the following questions — are the interventions:

- cost-effective from a patient perspective;
- accessible;
- acceptable;
- of high quality?

Definitions

In this paper we use the term “poverty” to indicate not only limited financial means, but also to include persons who lack power and voice by virtue of, for example, their age and gender. This terminology has been discussed further in recent analyses of poverty and vulnerability in relation to communicable diseases.^{21–23} The terms “poor” and “vulnerable” will be used interchangeably throughout this paper to emphasize the need for broad conceptualization.

PPM DOTS

In this article, PPM will be defined by

the following quotation²⁴ and the framework shown in Fig. 1.

“The term ‘PPM DOTS’ has thus evolved logically and appropriately to represent a comprehensive approach to link all relevant health care providers for DOTS implementation. It incorporates all forms of public-private, public-public or private-private collaborations for the common purpose of controlling TB in a community. There are increasing requests to design and support implementation, monitoring and evaluation of the ‘public-public mix’ and social marketing and health franchising initiatives.”

This demonstrates that virtually all types of potential health-care facilities and a wide range of non-health-care providers fit under the umbrella of PPM DOTS. To date, published experience of PPM DOTS is limited to a few types of providers (see Fig. 1) and while it is important to reflect on this experience, it is equally important to recognize that experience with one type of provider will not necessarily be replicated with others.

Findings

Given that the purpose of DOTS expansion strategies is to increase case detection while at least maintaining treatment success, it is important to assess the impact that an expansion strategy, in this case PPM, is having on those bearing the greatest burden of TB: the vulnerable. The questions that will be reviewed here are:

- do the vulnerable have access to and use the providers incorporated in the PPM model?
- why do the vulnerable choose these providers?
- do the providers provide the vulnerable with high quality care?
- what dilemmas and constraints do private practitioners face in providing DOTS case-detection services?

Do the vulnerable have access to and use the providers incorporated in the PPM model?

Different types of private health-care practitioners tend to cater for different socioeconomic classes of patients. Health-care facilities tend to be located where the number of potential users is higher, thus the concentration of such services is higher in urban than in rural areas.^{13,25,26} Delivering quality care and diagnosis close to where TB patients

live is problematic, as found in rural India.^{13,27} Untrained providers constituted 56% of PPs in a study done in Ujjain district, India.¹³

Research from Nepal found that private pharmacies could potentially play a role in TB control activities, but that the price of treatment was too high for many TB patients. This excluded poor patients with TB and made completion of the course of treatment less likely.¹⁷ Similar findings are found in a study from Manila,²⁸ while a study on treatment of malaria in India showed that practitioners do not send poor people for tests, because of lack of ability to pay.²⁹ Bhat found that 64% of practitioners reported that patients enquired about the expected cost of treatment before starting treatment:¹⁴ an interpretation is that cost affects the willingness and/or the ability of the patient to undergo the tests and treatment suggested.

Studies on women’s choice of practitioner in six slums of Karachi show a strong correlation between choice of provider and education: a lower level of education correlated with use of less-well-qualified practitioners.³⁰ It was also reported that slum dwellers use any health-care alternatives available in their vicinity,²⁵ and patients will thus use cheap, locally based health-care practitioners even if they may be untrained.

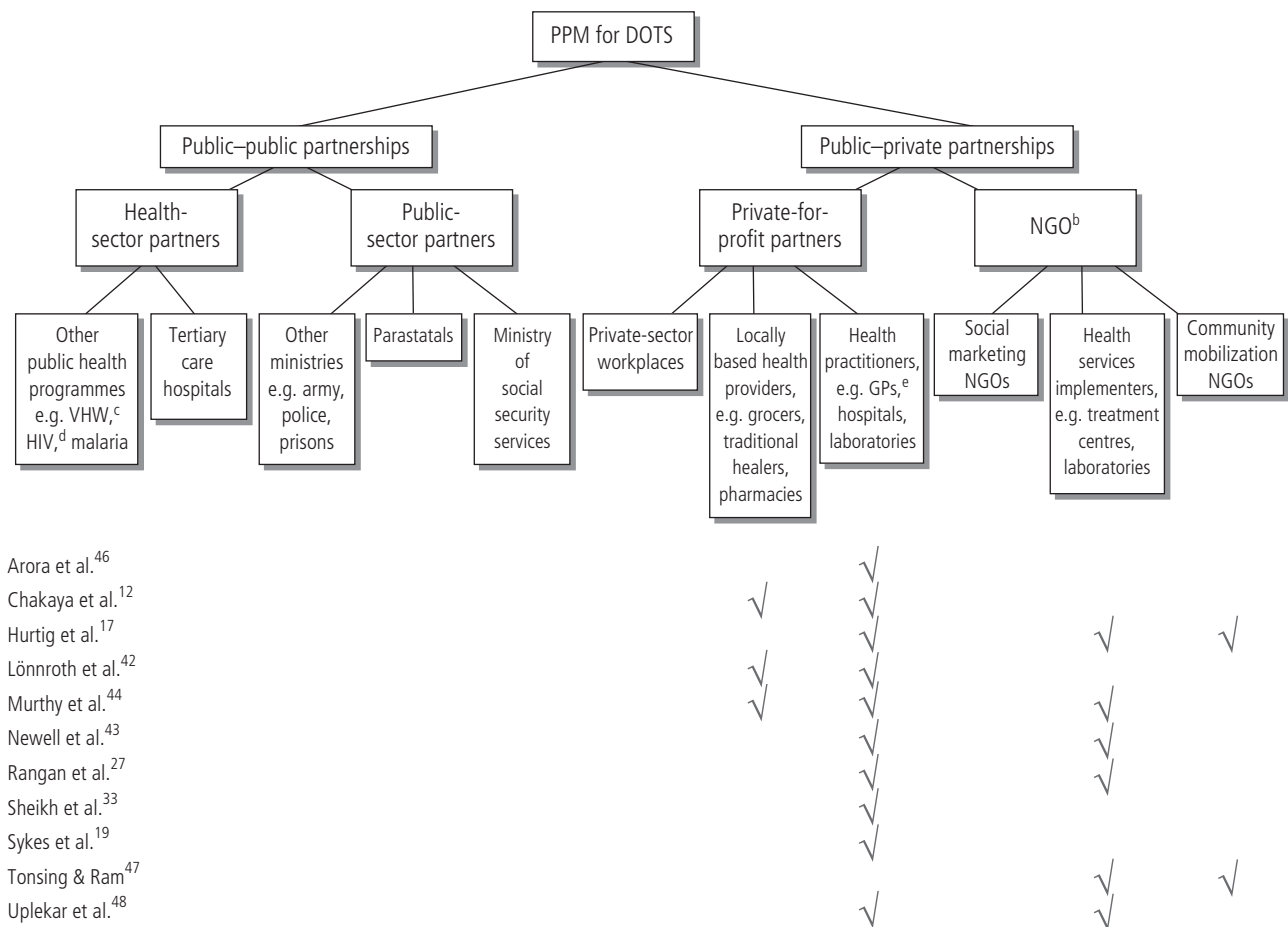
Why do the vulnerable choose these providers?

Gender-related stigma is a frequent reason for women to prefer private health-care providers instead of the public health system; the added privacy and patient-friendly opening hours of the PPs help to maintain confidentiality.^{19,31} A significant correlation between being female and use of private health care was also found in a study in Viet Nam.³²

The need to get a quick diagnosis may influence the choice of provider; waiting times at PPs are generally shorter, as is the delay between being tested and accessing results.³² Use of multiple providers is common,^{4,31,33} indicating that patients have a hierarchy of preference of providers, with options being influenced by finances available and other household factors.

The issue of availability plays an important role: vulnerable people’s opportunities to travel are limited because of direct and indirect costs.³¹ Quality care is often only found at some distance

Fig. 1. PPM for DOTS: a framework of potential providers and published experience^a



Arora et al.⁴⁶
 Chakaya et al.¹²
 Hurtig et al.¹⁷
 Lönnroth et al.⁴²
 Murthy et al.⁴⁴
 Newell et al.⁴³
 Rangan et al.²⁷
 Sheikh et al.³³
 Sykes et al.¹⁹
 Tonsing & Ram⁴⁷
 Uplekar et al.⁴⁸

Source: Ref. 49.

^aArticles identified in the literature search have been grouped according to the type of provider studied and listed in alphabetical order; experience to date has not been published across the whole range of potential provision.

^bNGOs = nongovernmental organizations.

^cVHW = volunteer health worker.

^dHIV = human immunodeficiency virus.

^eGPs = general practitioners.

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from poorer populations, as more highly qualified practitioners prefer to live and work in more affluent areas where they have access to good services for their own household. Therefore the care that is locally available to most vulnerable patients may be of low quality and offered by unqualified practitioners.^{12,13,29}

In some places, however, private providers are at least as accessible to the poor as public providers. Studies from Viet Nam indicate that the cost of public health services was only slightly lower than that in the private sector and that some private providers offer flexible pricing and payment in kind.³² Credit and payment in kind was also found among locally based health-care providers in a small study done in rural India.³⁴ Provid-

ers accepting flexible payment are more accessible for the vulnerable.

Do the providers provide the vulnerable with high quality care?

A series of studies have shown that provision of diagnosis and treatment often lacks an evidence-based approach in private health-care services in developing countries.^{8,12,26,29,35} For TB, X-ray diagnosis is often used instead of the sputum-smear microscopy recommended in the DOTS strategy.⁴ Such problems are found among all types of practitioners, but are more frequent among the practitioners who treat the poor.^{26,29,30}

Quality private health-care services for patients with TB is typically linked

to patient perceptions of quality care; no registration, a one-stop test in the form of an X-ray instead of a sputum test, flexible regimens, better practitioner–patient interaction and more convenient geographical placement and opening hours.^{5,14,36} The first three of these patient-friendly factors can be viewed from a public-health point of view as problematic, since the use of X-ray as the only source of diagnosis, non-standard regimens and the lack of registration are not consistent with the DOTS strategy.^{6,8,17,37}

What dilemmas and constraints do private practitioners face in providing case-finding services?

Customer demand influences private

provider behaviour, which could result in a lack of coherence between the knowledge of best practice and actual behaviour for PPs,^{32,35} as business principles dictate that consumer demand and expectations drive profitability.³⁸ It is sometimes seen that private providers prescribe and use an excessive number of tests, which increases costs for patients.^{8,14,26,37,39} There is a need for a strong stewardship, in order to address the profit-driven aspects of TB diagnosis in the private sector.

Caminero argues that there is a need to engage specialized practitioners in the PPM dialogue because they have a strong influence on practice and policy by virtue of their professional status, and hence potentially could provide the required stewardship.⁴⁰ However, it is not clear that these specialists have influence beyond the sphere of those qualified practitioners who have access to continuing education or updated information. Specialized practitioners tend to be located in urban areas¹³ and do not necessarily interact with all types of practitioner, hence the benefit for poor and rural populations may be limited. A study from Manila shows that even poor people who live in urban areas tend not to seek biomedical care when they experience symptoms of TB.⁴¹

Although stewardship of the private sector according to public health priorities is recognized as crucial, it has proved a difficult task for the public sector. A study from Nepal found that there was a lack of capacity and willingness within the public sector to fully engage in the interaction with the private sector, mainly owing to a general lack of human resources, frequent transfers of staff and apathy at the district level.¹⁷ Similar problems were found in other PPM projects.^{27,34}

Discussion

Fig. 1 shows that most of the current published and publicly accessible literature on PPM models is focused on for-profit PPs, and on nongovernmental organizations that deliver health services. Even if the literature search was not exhaustive, it is clear that a very large part of the total spectrum of potential PPM partners has not yet been explored. It could be argued that a number of the potential partners depicted in Fig. 1

do not cater for the vulnerable people in society, examples being private and public workplaces and private-for-profit hospitals. This is because poor people are generally not in long-term, formal employment and the patient fees in private-for-profit hospitals are often unaffordable for the vulnerable. On the other hand, nongovernmental organizations tend to target their activities towards the vulnerable, but have not currently engaged significantly in the diagnosis and treatment of TB.

In order to assess the degree to which PPM models are successfully targeting the vulnerable, it is necessary to know which sectors of the population the projects are reaching; this is not always measured or clear.⁴² From the PPM projects listed in Fig. 1, the projects in Delhi and in Nepal argue that they cater for low-income/poor patients;^{34,43} however, no clear socioeconomic indicators are stated for the patients who use the services, which makes it difficult to assess the proportion of the patients that would be classed as vulnerable. The project in Hyderabad does include locally based health-care providers,⁴⁴ which increases the likelihood of including vulnerable people. Indications of patients' socioeconomic sphere are unclear from the other projects and, as is pointed out in the example from Kibera, the prepayment scheme that is being used in private health-care provision of DOTS in Nairobi may alienate vulnerable groups.¹²

It is possible, however to comment on issues which affect the vulnerable and by which the projects can be measured. These include:

- stigma;
- mobility; and
- quality.

Issues associated with stigma are positively dealt with in all the PPM projects. The attitudes of health-care staff have been shown to be a very important factor determining whether the patient completes treatment for TB;⁴⁵ attitudes have typically been reported as being better among private providers and this is thus a strong argument for the use of PPs in TB care.

Problems related to mobility are addressed in the urban models but, as seen in the example of Rangan et al.,²⁷ geographical access is more of a problem in rural areas; travel to the public health

post is difficult for both practitioners and patients. Part of the solution could be to involve the community-based public-health workers,²⁷ another option would be to engage the locally based PPs who are already established in the rural areas.^{13,34} This could be effective if the total costs to patients are lower than those for accessing a public provider, and if sufficient training and supervision are given to the private providers so that they are able to offer appropriate diagnosis and treatment. Involving key stakeholders such as specialized practitioners, or medical practitioner associations can add value to some PPM projects,^{40,42,46} but they are unlikely to solve many of the problems relating to vulnerability, such as those found in Pune, India, where distance to the public-health facilities and inconveniences imposed on the patients are cited as some of the main reasons for the lack of continued commitment from the PPs.²⁷

Issues of quality relate to all aspects of DOTS. In the example from Hyderabad, the PPM practitioners did not stop sending patients for X-ray before referring them to the public sector; furthermore, there were indications that only the patients who were unable to pay were referred.⁴⁴ Records were not kept properly or monitored. In an example from Nepal, the private providers were not willing to keep records and were not keen on referring TB patients to the public sector;¹⁷ the use of referral forms ceased after six months in the example from Pune.²⁷ There are concerns with treatment completion and observation in fee-paying situations, and government commitment to regulation remains an issue. The majority of current examples of PPM do not clearly demonstrate that the participating partners really provide quality care for the poor.

Hurtig et al. in Nepal¹⁷ describe the lack of capability and willingness within the public sector to handle the interaction with the private sector,^{17,33} similar issues of concern were pointed out by Lönnroth et al.⁴² The suggestion that nongovernmental organizations be used as mediators or direct providers of TB care is made in several publications^{17,27,44,47}, and could address a number of the profit-associated problems with PPs. It is clear from all the examples that there is a need for a strong and motivated public sector to handle the interaction with PPM partners.^{12,17,19,27,33,42-44,46-48}

Conclusions

The PPM interventions vary in the degree to which they are cost-effective, accessible, acceptable and of high quality, with regard to case finding, from a patient perspective, and some do not focus on these parameters at all.

PPM projects do have the potential to promote case detection among the poor and vulnerable and thus to

reach the people most affected by TB. It is important for such programmes to assess whether the PPs involved are accessible to, and used by, the poor and vulnerable, thus detecting cases from sectors of the population who formerly had lesser access, rather than from those who have always had access but via different channels. This is not currently clear. Furthermore, different approaches are needed in rural and in urban areas.

To reach the vulnerable, there appears to be a role for expanding the current range of PPM partners to include non-governmental organizations, both as direct providers of diagnosis of and care for patients with TB, and as mediators and quality controllers among various providers. ■

Competing interests: none declared.

Résumé

La collaboration public/privé peut-elle favoriser la détection des cas de tuberculose parmi les plus pauvres et les plus vulnérables ?

Les stratégies mixtes public/privé (PPM) de services DOTS bénéficient d'une large promotion en tant qu'adaptation de la stratégie DOTS favorisant les progrès en direction des objectifs de la lutte internationale contre la tuberculose (TB), à savoir détecter 70 % des cas de TB et traiter avec succès 85 % des cas détectés. Dans nombre de pays en développement supportant une forte charge de TB, le secteur privé joue un rôle central dans la dispensation des soins de santé. Il est par conséquent encourageant que des projets PPM soient mis en place dans divers pays du monde, car il est ainsi possible d'étudier les interactions éventuelles entre les programmes nationaux de lutte antituberculeuse et les autres partenaires dans cette lutte. L'objectif de la présente revue de la littérature était d'exploiter les documents publiés pour évaluer la capacité des divers prestataires impliqués dans les projets PPM à fournir des services de dépistage aux plus vulnérables. S'agissant du dépistage

des cas, les éléments essentiels d'un modèle PPM favorable aux plus démunis, c'est-à-dire un bon rapport coût/efficacité du point de vue du malade, l'accessibilité, l'acceptabilité et la qualité, ont été identifiés. Cette revue a révélé qu'une large part de la palette de participants potentiels aux projets PPM n'avait pas encore été explorée, les modèles actuels étant axés sur les prestataires de soins de santé privés à but lucratif et les organisations non gouvernementales. La conclusion de cette étude est qu'il importe de rester critique quant au type de prestataire privé le plus apte à répondre aux besoins des pauvres et qu'il faudrait acquérir davantage d'informations sur la situation socioéconomique des patients accédant aux services de santé par le biais de projets pilotes PPM.

Resumen

¿Puede la colaboración publicoprivada promover la detección de casos de tuberculosis entre los pobres y vulnerables?

La DOTS publicoprivada (PP) es una opción ampliamente fomentada como adaptación de la estrategia DOTS para impulsar el avance hacia las metas internacionales de control de la tuberculosis consistentes en detectar el 70% de los casos de la enfermedad y tratar satisfactoriamente el 85% de ellos. El sector privado tiene un papel fundamental en la prestación de atención sanitaria en muchos países en desarrollo que tienen una alta carga de tuberculosis. Por ello, es alentador que se estén poniendo en marcha proyectos PP en diversos países para estudiar la posible interacción entre los programas nacionales de tuberculosis y otros asociados de la lucha antituberculosa. El objetivo de esta revisión fue evaluar a partir de la bibliografía la gama de proveedores participantes en las iniciativas PP a fin de determinar su capacidad para proporcionar servicios de detección de casos a la población vulnerable. Desde una perspectiva

centrada en la detección de casos, identificamos los elementos esenciales de un modelo PP favorable a la población pobre, esto es, centrado en la costoeficacia en cuanto a la accesibilidad, la aceptabilidad y la calidad desde el punto de vista del paciente. La revisión reveló que aún queda por estudiar una muy gran parte del espectro de posibles asociados para iniciativas PP; los actuales modelos se centran en proveedores privados con fines lucrativos y en organizaciones no gubernamentales. Nuestra conclusión es que es importante reflexionar críticamente sobre el tipo de proveedores privados más idóneos para atender las necesidades de los pobres, y que habría que hacer un mayor esfuerzo para documentar la situación socioeconómica de los pacientes que acceden a los servicios mediante proyectos piloto de colaboración PP.

ملخص

هل يستطيع التعاون بين القطاع العام والخاص تعزيز كشف حالات السل بين الفقراء والمستضعفين؟

نظر كشف الحالات تعرفنا على العناصر الأساسية للنموذج المناصر للفقراء في نطاق التعاون بين القطاع العام والخاص، وهو بالأحرى أكثر فعالية لقاء التكاليف من وجهة نظر المرضى من حيث الإتاحة والمقبولية والجودة. وقد أظهرت المراجعة أن قسماً كبيراً جداً من الطيف الكامل الشركاء الذين تحتمل مشاركتهم في نطاق التعاون بين القطاع العام والخاص لم يتم التعرف عليهم؛ إذ تركز النماذج الحالية على المشاركين من القائمين على الرعاية الصحية ممن يستهدفون الربح في القطاع الخاص وعلى المنظمات غير الحكومية. واستنتجنا أن من الأهمية بمكان التفكير من وجهة نظر نافذة بنمط القائمين على إيتاء الرعاية في القطاع الخاص ممن هم في وضع ملائم لتلبية احتياجات الفقراء، وأنه ينبغي عمل المزيد من أجل توثيق الحالة الاجتماعية والاقتصادية للمرضى الذين تتاح لهم الخدمات في المشروع الارتيادي التعاون بين القطاع العام والخاص.

ينصح وبشكل دائم بتعزيز التعاون بين القطاع العام والخاص في تنفيذ استراتيجية المعالجة القصيرة الأمد للسل تحت الإشراف المباشر، واعتبار ذلك تكييفاً لهذه الاستراتيجية لتحقيق التقدم نحو الأهداف الدولية لمكافحة السل والتي تتمثل بكشف 70% من حالات السل والمعالجة الناجحة لـ 85% منها. وتؤدي الرعاية الصحية في القطاع الخاص دوراً هاماً في إيتاء الرعاية الصحية في الكثير من البلدان النامية التي تعاني من عبء ثقيل من السل، ومن هنا أصبح تشجيع مشاريع التعاون بين القطاع الخاص والعام قاعدة أساسية في مختلف البلدان في جميع أنحاء العالم، لكشف التأثير المتبادل والمحتمل حدوثه بين البرامج الوطنية لمكافحة السل من جهة وبين الشركاء الآخرين الذين يكافحون السل أيضاً من جهة أخرى. وتهدف هذه الورقة إلى مراجعة النشريات المطبوعة وتقييم طيف من القائمين على الرعاية الصحية لمرضى السل في نطاق التعاون بين القطاع العام والخاص ومدى قدرتهم على إيتاء الخدمات في كشف الحالات بين المستضعفين. ومن وجهة

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