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Private sector engagement in tuberculosis prevention and care in southern Africa

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ABSTRACT

Background: The engagement of the private sector in healthcare, particularly in tuberculosis (TB) prevention and care, is crucial for addressing the TB burden in high-prevalence regions, yet the understanding of the extent of private care, and how the collaboration with government works, remains limited in many countries.

Objectives: We examined the landscape of private sector engagement in TB prevention and care across high TB burden districts in Lesotho, Malawi, Mozambique and Zambia.

Methods: A sample of 251 private facilities was surveyed in a cross-sectional study. The sample encompassed for-profit clinics/hospitals, corporate clinics/hospitals, faith-based organisation/non-governmental organisation (FBO/NGO) clinics/hospitals, and stand-alone pharmacies and laboratories, with a focus on their roles, expansion trends, and collaborative efforts with the Ministry of Health/national TB programme (MoH/NTP). Respondents were asked how long the facility had been operating, if they had any collaboration with the MoH in TB prevention and care, and what that collaboration entailed (including challenges and incentives). Non-collaborating facilities were asked the reasons for non-collaboration and their intertest in collaboration, including needs, benefits, and challenges.

Results: The most common types of facilities were for-profit clinics/hospitals (41%), followed by stand-alone pharmacies (38%). Private for-profit facilities experienced rapid expansion over the past decade, with approximately 50% being registered in the last seven years. In Lesotho, 80% of for-profit hospitals/clinics collaborated with the Government, benefiting from various support mechanisms such as free TB drugs, diagnostic services, training, mentorship, and national guidelines. In Malawi, 73% of private facilities were collaborating with the MoH in TB prevention and care. There was minimal collaboration between the MoH and private facilities in TB prevention and care in Mozambique, with no implementation of the public-private mix for TB control in the surveyed districts. In Zambia, the collaboration was in its infancy, primarily involving corporate facilities, and lacked formal memoranda of understanding.

Conclusion: The results of the survey underscored the heterogeneous nature of public-private collaboration in TB prevention and care across the four countries, emphasising the need for tailored strategies to enhance collaboration, particularly in Mozambique and Zambia.

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Keywords
public-private partnerships, End TB Strategy, Lesotho, Malawi, Mozambique, Zambia

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INTRODUCTION

The World Health Organization's (WHO's) End TB Strategy, developed in 2015, emphasises the need for national TB programmes (NTPs) to engage all care providers, including for-profit private healthcare providers, in order to identify and ensure early diagnosis of people with TB.[1] However, this objective has not been achieved and a significant proportion of people with TB remain unidentified, worldwide. In 2021, an estimated 10.6 million people fell ill with TB, of which 6.4 million were notified to national authorities across the world, implying that 4.2 million people with TB (40%) were not identified or reported to national authorities.[2] It is estimated that two-thirds of the 'missed' TB cases are those accessing TB treatment from private health providers that are not engaged with NTPs.[3] Several studies have shown that private healthcare providers are a first point of contact for a large number of TB patients,[4–6] with many of these private health providers offering TB care that lacks quality assurance or is

inappropriate.[4,7] A pattern has emerged where TB patients make their first contact with a pharmacist for over-the-counter sales of cough medicine or antibiotics, followed by one or more visits to a private healthcare provider and, finally, visits to a public sector TB diagnosis and treatment site.[5]

It is imperative that NTPs engage private healthcare providers if the gap (of missed people with TB) is to be closed and if patients are to access quality-assured TB services at all points of care. The engagement of private healthcare providers in NTPs has been shown to increase TB case notification and improve treatment success rates. In Nigeria, TB case notification by the private sector improved from 14% in 2016 to 26% in 2020, after a public-private mix approach was introduced in 2017.[8] In India, the contribution of smear-positive cases by non-NTP providers increased by 40% in 2003, after a similar approach was introduced.[9] Other studies have reported a high yield (47%) of TB cases referred from the private to the public sector, and an increase of treatment success rates from 50% to above 80% after engagement of the private sector.[4,9] The engagement of private healthcare providers in TB control is not only a key imperative in identifying people with TB, making early diagnoses, including universal access to drug sensitivity tests (DSTs), and improving access to quality-assured treatment, but it has also been proven to be effective in increasing TB case notification and treatment success.

Improved early access to TB diagnostic tests reduces delayed treatment, which is a major predicator of catastrophic costs to both the patient and the state. Studies have shown that individuals with catastrophic costs tend to be those who start treatment more than four weeks after onset of symptoms. Delay in diagnosis leads to prolonged hospitalisation, more expensive non-TB medication, and more frequent visits to healthcare facilities. Engaging the private sector to improve TB diagnosis has an impact on alleviating catastrophic costs incurred by families.[10]

Failure of NTPs to engage private healthcare providers increases the risk of delayed TB diagnosis and treatment, and excessive mortality and morbidity due to inappropriate treatment and increased drug resistance as a result of poor-quality treatment. It also leads to incomplete monitoring of TB services and documentation of TB data.[11] Therefore, engaging private healthcare providers can be viewed from the perspective of both improving TB service coverage and preventing 'harm' to TB patients.

This study is the first to explore opportunities for public–private partnerships in TB control in four high TB burden countries, with spill over benefits across the Southern African Development Community (SADC) region, as part of the Southern Africa Tuberculosis and Health Systems Support (SATBHSS) project, coordinated by the African Union Development Agency-New Partnership for African Development (AUDA-NEPAD) and funded by the World Bank.

The aim of the study was to assess the extent to which NTPs in four southern African countries are engaging private healthcare providers. The objectives were to identify existing collaborations by private healthcare provider type, which included hospitals and clinics, individual practitioners, pharmacies, and laboratories; and to assess the extent of collaboration, encompassing associated benefits, incentives, concerns, and challenges.

METHODS

This was a facility-based, cross-sectional study conducted in 2019 in the four southern African countries targeted by the SATBHSS project, viz. Lesotho, Malawi, Mozambique, and Zambia.

Engagement/collaboration of the private sector was defined as the establishment of a formal voluntary alliance, with agreement about reciprocal duties and responsibilities, and with expectations of benefits from working with governments in TB prevention and care. The scope of TB prevention included early diagnosis and treatment of active TB to stop infectiousness, prevention of active disease in exposed or known latently infected individuals, and infection prevention and control of TB in private healthcare facilities.[12]

Lists of health facilities were provided by the regulatory bodies in each country and were used to select private healthcare providers based on the WHO definition, viz. not-for-profit faith-based organisation (FBO) and non-governmental organisation (NGO) hospitals and clinics; for-profit hospitals and clinics, stand-alone pharmacies, and laboratories; and corporate hospitals and clinics. Dental, ophthalmologic, and optician facilities were excluded.

Stratified sampling was applied to ensure representation of all types of private providers in each country. Two districts, with both high TB burdens and large numbers of private healthcare providers, were selected in each country. Sample size was calculated using Epi Info 7.2 statistical software appropriate for cross-sectional study/survey designs. A total of 251 facilities were selected for the study: 40 in Malawi, 103 in Zambia, 55 in Lesotho, and 53 in Mozambique.

The project was approved by all countries: Lesotho (ethics clearance no. ID128-2018 and ID172-2019), Malawi (ethics clearance no. NCST/RTT/2/6), Mozambique (ethics clearance no. 34/CNBS/19), and Zambia (ethics clearance no. 2018-Nov-087).

Data collection

The MoH in each country took the lead in coordinating the data-collection process, including contacting stakeholders for interviews. Data were collected from each facility by trained data collectors, using a pre-tested, semi-structured questionnaire, based on the WHO TB prevention and care guidelines. The questionnaire, which included both closed and open-ended questions, was piloted in private healthcare facilities that were not part of the study sample. Data were collected by one team per country, which was independent of the respective Ministry of Health. The principal investigator trained the teams on the data-collection protocols, ethical considerations, and administration of the questionnaire. The questionnaire was designed and administered in English and translated when necessary.

Prior to data collection, the team identified a respondent who could provide the required information. The data collector first communicated with, and interviewed, the head of the facility. If there was a need for additional data, or the Head of the facility was unavailable, then the data-collection teams approached appropriate technical staff to complete the questionnaires.

Data analysis

Quantitative data were entered into EpiData and analysed using Stata16. The data were checked for consistency, outliers, and missing values. Qualitative methods comprised thematic analysis and triangulation. The variables of interest included availability of private providers over the years and extent of collaboration (by provider type); and perceived benefits, incentives, concerns, and challenges of collaboration between government (MoH) and private healthcare providers. Results are presented in tables and graphs, showing frequency distributions.

RESULTS

A total of 251 private facilities participated in the study. For-profit clinics/hospitals constituted 41% of all private facilities, followed by stand-alone pharmacies (38%) (Table 1).

Private for-profit facilities (for-profit hospital/clinics, stand-alone pharmacies, and stand-alone laboratories) have been showing rapid expansion in the last 10 years (Figure 1). About 50% of facilities were registered in the last seven years.

Availability and extent of collaboration

The degree of collaboration differed between the four countries. There was relatively better collaboration between the public sector NTPs and private facilities in Lesotho and Malawi than in Zambia and Mozambique. In Lesotho and Malawi, about 64% (n = 35) and 73% (n = 29) of private facilities, respectively, collaborated with government as opposed to 12% (n = 12) in Zambia and none in Mozambique.

In Lesotho, the MoH/NTP, in collaboration with development partners, provided the following for collaborating private facilities (for-profit and corporate clinics or hospitals): free TB drugs, free TB diagnostic services for referred patients, national guidelines, and reporting tools. The MoH also provided training, mentorship, and supportive supervision for TB prevention; and early diagnosis and treatment for healthcare workers, based on current guidelines/protocols and algorithms. In return, the private facilities were expected to provide quality services, and regularly report on TB care and prevention management to the MoH/NTP. The NGO/FBO hospitals/clinics (Christian Health Association of Lesotho-CHAL facilities) worked with the Government across all primary healthcare packages, including TB prevention and care.

In Malawi, there were no corporate hospitals/clinics or stand-alone for-profit laboratories. Government collaboration with private facilities (Table 2) started in the year preceding the study, after doing rapid assessments of needs and developing memoranda of understanding (MoUs). Similar to Lesotho, the NGO/FBO hospitals/clinics (Christian Health Association of Malawi-CHAM) worked with the Government across all primary healthcare packages, in general, including TB prevention and care. The MoH provides training, guidelines, quality assurance for the for-profit clinics/hospitals, including external quality assurance (EQA); free drug and laboratory equipment supply, depending on the type of facility and its need for diagnosis and treatment of TB; and infection

Table 1. Types of private facilities that participated in the study, by country (N = 251)

Type of facility	Country								
	Lesotho		Malawi		Mozambique		Zambia		All
	n	%	n	%	n	%	n	%	n
Private for-profit hospital/clinic	20	19.2	30	28.8	19	18.3	35	33.7	104
Private stand-alone pharmacy	15	15.6	6	6.3	27	28.1	48	50	96
Private stand-alone laboratory	1	16.7	-	-	1	16.8	4	66.7	6
NGO/FBO hospital/clinic	17	60.7	4	14.3	-	-	7	25.0	28
Corporate hospital/clinic	2	11.8	-	-	6	35.3	9	52.9	17
Total	55	21.9	40	15.9	53	21.1	103	41.0	251

FBO: faith-based organisation, NGO: non-governmental organisation

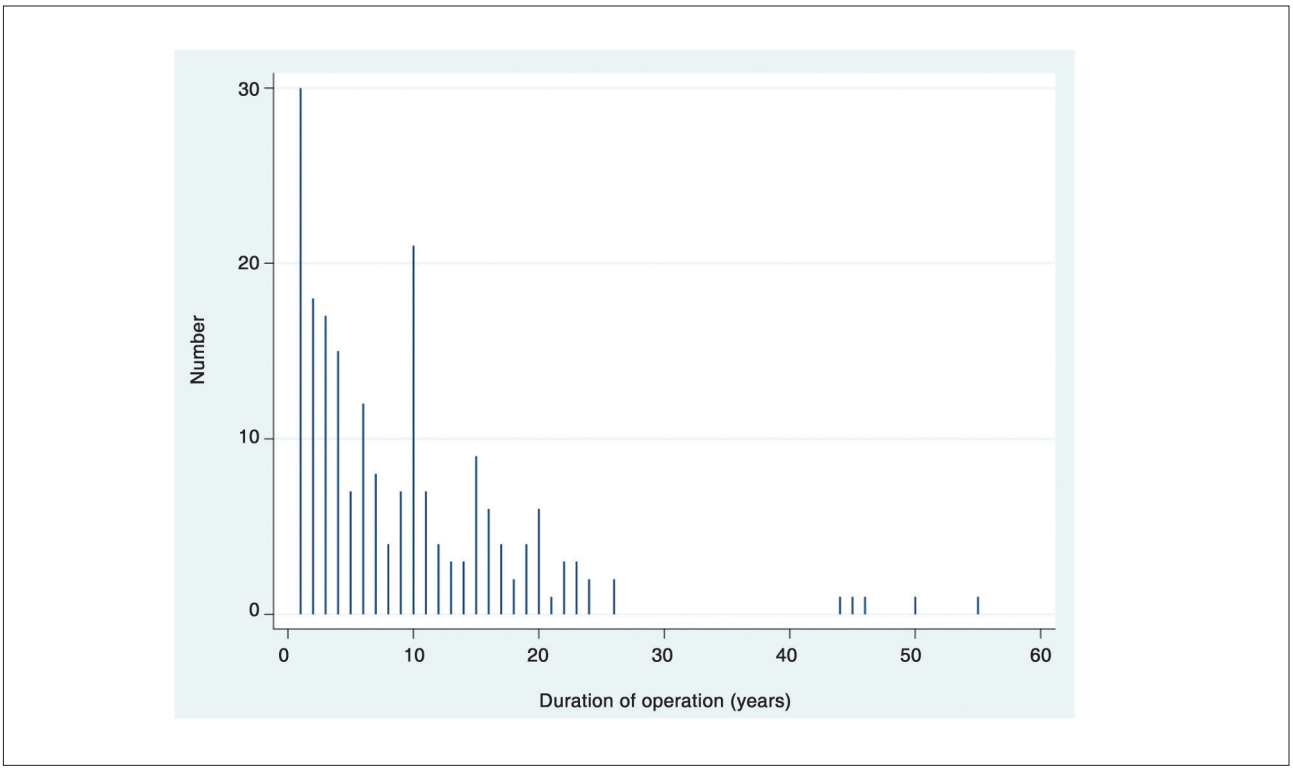


Figure 1. Registered for-profit private providers over the years (N = 206)

control guidelines and training. In return, the facilities provided free services, notified cases, and were expected to comply with agreed-upon quality standards. Clinics/hospitals that were not treatment facilities were involved by the MoH in screening and referral of presumptive cases, with sputum samples to be tested in a government facility. Most of the retail pharmacies (83%) collaborated with the MoH in screening and referral of suspected TB cases. Biannual steering committee meetings, and quarterly supportive supervision, were the main activities for monitoring the public-private mix (PPM) implementation. Data were collected through the District Health Information System (DHIS) and by District Health management teams who visit facilities every quarter to collect data from primary documents. Data from the two sources did not necessarily tally, due to incomplete recording and other data quality issues in the DHIS system.

Table 2. Engagement of private facilities in TB prevention and care, by country (N = 251)

Type of facility	No. facilities	Collaborating facilities	
		n	%
Lesotho			
For-profit hospital/clinic	20	16	80.0
For-profit pharmacy	15	0	-
For-profit laboratory	1	0	-
NGO/FBO hospital/clinic	17	17	100
Corporate hospital/clinic	2	2	100
Malawi			
For-profit hospital/clinic	30	20	66.7
For-profit pharmacy	6	5	83.3
For-profit laboratory	0	0	-
NGO/FBO hospital/clinic	4	4	100
Corporate hospital/clinic	0	0	-
Mozambique			
For-profit hospital/clinic	9	0	-
For-profit pharmacy	27	0	-
For-profit laboratory	1	0	-
NGO/FBO hospital/clinic	0	0	-
Corporate hospital/clinic	6	0	-
Zambia			
For-profit hospital/clinic	35	5	14.3
For-profit pharmacy	48	0	-
For-profit laboratory	4	1	25.0
NGO/FBO hospital/clinic	7	2	28.6
Corporate hospital/clinic	9	4	44.4

FBO: faith-based organisation, NGO: non-governmental organisation

Collaboration on TB prevention and care between the MoH and private facilities in the two districts of Mozambique was almost non-existent (Table 2). Only one corporate clinic, in one of the two districts (a tobacco company clinic) that were implementing TB/HIV collaborative activities, was collaborating with the human immunodeficiency virus (HIV) department.

Zambia had just started the process of collaboration between the MoH/NTP and private providers of TB care. Few private facilities, the majority of which were from corporate facilities (44%), had started collaborating in some form of early diagnosis, treatment, and/or referral. The collaborative activities were underway without any MoU and entailed the provision of free drugs or laboratory supplies by the MoH, depending on the capacity of the facility, in exchange for free treatment, referral linkage for diagnosis (GeneXpert test, etc.), and reporting by the private providers.

Data from the sample facilities for 2018 (collected in 2019) indicated that large numbers of patients were tested for, and diagnosed with, TB in private facilities in Lesotho and Malawi.

Challenges, incentives, benefits, and concerns of collaboration

Table 3 outlines the main responses of healthcare workers in private facilities related to working with the MoH/NTP. Challenges included limited incentives, weak governmental monitoring of the utilisation of free drugs and equipment provided to private healthcare providers, and lack of trust between the private sector and government.

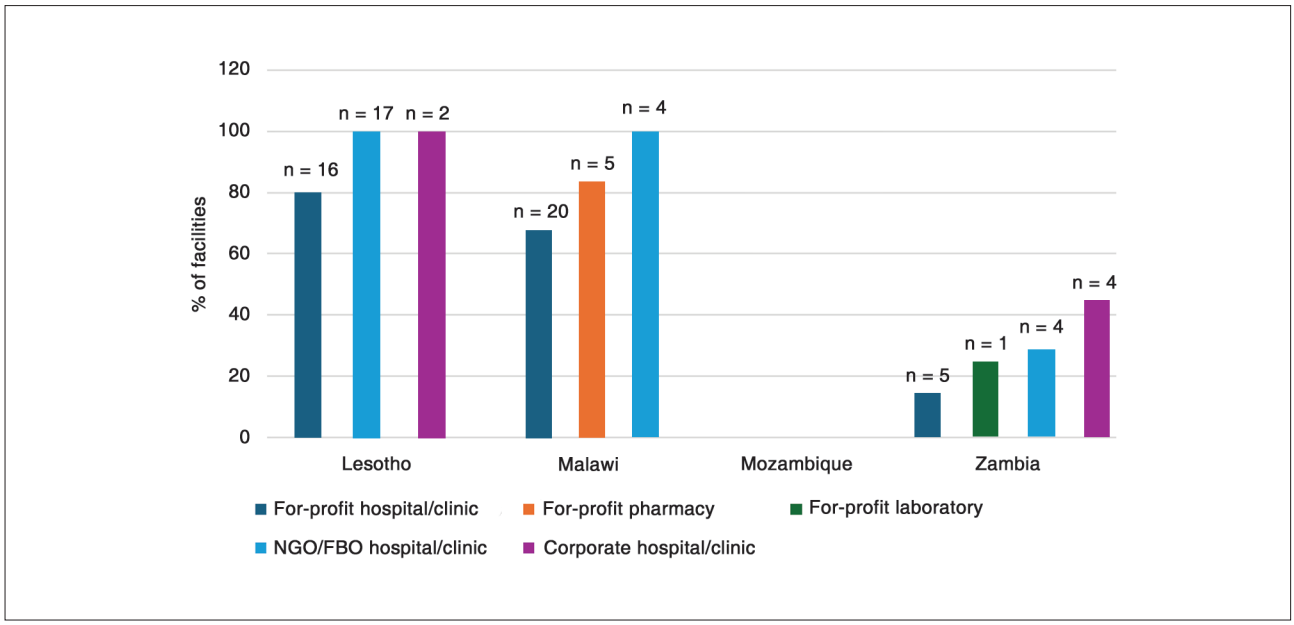


Figure 2. Private health facilities engaged with government in each of the four countries

FBO: faith-based organisation, NGO: non-governmental organisation

Table 3. Challenges, incentives, and benefits of collaborations

Challenges for collaborating facilities
• Concern about the negative attitudes of providers in government facilities towards patients referred from private for-profit facilities
• Patients in private facilities are reluctant to go to public facilities for tests or treatment for several reasons, such as stigma, privacy, provider's attitude, long queues, etc.
• Lack of infection control guidelines and training in Malawi
• Mistrust between government and private sector
• Stock-outs of TB drugs (isoniazid (INH), in particular) and laboratory reagents in Lesotho
• Delay in turnaround time for laboratory results, due to slow sample transportation system and paper-based reporting in Lesotho
Incentives for both collaborating and non-collaborating facilities
• Perceptions (notably in small clinics) that collaboration with the MoH improves visibility/image in the community, leading to increases in the numbers of patients seeking services in the facility, which could boost revenue
• Additional incomes that could be generated from diagnosis and treatment of co-morbidities of TB patients and their contacts
• Availability of TB diagnostics and drugs could attract customers
• Collaboration is seen as an opportunity to retain patients who do not want to go to public facilities. It is thought to improve patients' need in getting services in one place, where they want them
Benefits for both collaborating and non-collaborating facilities
• Reduced overcrowding in government facilities, especially hospitals
• Improved access to services and ease of follow up, as private facilities are widely spread and close to communities
• An opportunity to minimise delays in diagnosis and treatment, and increase detection of missing TB cases
• Access to training on current protocols/guidelines
• Supportive supervision to improve technical capacity of providers in TB prevention and care
• Strong desire to collaborate with government (MoH) across all types of private facilities
Concerns for both collaborating and non-collaborating facilities
• Limited commitment from government to translate the process into action, and to sustain the collaboration
• Mistrust between private sector health providers, officials in the MoH, and health facilities
• Burden of managing TB cases on clinic staff, especially data handling and follow up of TB cases
• Free service policy of government: need to charge patients consultation fees even though drugs or diagnostics are provided by government
• Burden of contact and defaulter tracing as patients visiting private facilities are widespread, geographically
• Inconsistent supply of drugs, diagnostics, infection control equipment, and consumables

MoH: Ministry of Health, TB: tuberculosis

Table 4. Reasons for non-collaboration between private healthcare providers and Ministry of Health/ national TB programmes

Lack of engagement
• NTPs have not come forth to engage private sector facilities about issues of TB
• No visits or approaches from the NTP
• The private sector's limited awareness of the government TB strategy
• Lack of interest from government
Lack of trust
• Private healthcare providers viewed by NTP/MoH as adversaries
• Perception among MoH/NTP experts that TB prevention and care is the responsibility of public health facilities
• Neglect or lack of trust of private healthcare providers by government
• Hard boundaries between the private and public sectors

MoH: Ministry of Health, NTP: national TB programme, TB: tuberculosis

Table 5. Recommendations for collaboration between private healthcare providers and Ministry of Health/national TB programmes

Recommendation
• Involvement of private sector healthcare providers in training and access to guidelines, protocols, and algorithms to enhance technical capacities in TB prevention and care
• Change of attitudes of NTP/MoH towards private healthcare providers
• Supply of drugs, diagnostic and infection control equipment, and consumables in return for reduction in TB treatment cost
• Data recording and reporting tools to improve patient tracking and referral
• NTP visits to private facilities to provide supportive supervision and monitoring for quality improvement

NTP: national TB programme, TB: tuberculosis

Reasons for non-collaboration of private healthcare providers with the Ministry of Health/national tuberculosis programmes

The most common reasons put forward by private healthcare providers for not collaborating with (MoH)/NTPs were lack of engagement, interest, and trust on the part of the respective Government. The reasons for non-engagement expressed by private healthcare providers for non-collaboration are outlined in Table 4.

Needs of private healthcare providers to collaborate with Ministry of Health/national TB programmes

Non-collaborating private healthcare providers expressed their willingness to collaborate with MoH/NTPs. The main responses about collaboration are shown in Table 5.

DISCUSSION

The rapid expansion of the private sector, its increasing population coverage and geographical spread, and its choice as a first point of contact for many patients (poor and rich) should be seen as an opportunity to engage the sector in TB prevention and care.[13,14] Most respondents in our study stressed the needs and desire for, and benefits of, collaboration with governments in TB prevention and care, and hoped to see this collaboration implemented. They attested that many patients chose to get access services from private facilities. Therefore, strengthening the prevention, diagnostics, and care value chains of these facilities, by partnering with government, is a sustainable solution to increase TB patients' access to quality-assured services. Engaging private healthcare providers also leads to an increase in case notifications through systemic, scalable, and innovative approaches, strengthening of regulatory systems, and use of new information technologies.[5] The choice that people make about where to source services needs to be respected, and is an opportunity to provide the necessary care through collaborations between governments and the private sector.

The collaboration between the private and public sectors in TB prevention and control is absent or in its infancy in Mozambique and Zambia. The collaboration in Malawi is at an early stage as the model of engagement unfolds. Use of appropriate models of engagement, taking into consideration the diversity of private providers and their business models; the health systems context within each country or setting; and analysis of the challenges, benefits, incentives, concerns and risks, on both the side of government and the private sector, is critical for a sustained and impactful collaboration.[13-16]

There is a need for meetings and discussions between the private and public sectors, which should include other stakeholders, such as development partners and professional associations, to refine and enhance implementation strategies, agree on working modalities, and draft MoUs between the two sectors in each country. Public awareness about the availability of TB services in private facilities, using different media, is an important step that should be implemented at the initial stage of engagement.[13]

In collaborating facilities, the issue of incomplete records and other data-quality issues, and the burden of data recording and reporting, were identified as challenges that affect case notification and patient tracking. Stock-outs of drugs and reagents was another challenge that affects service delivery. Establishing a system that addresses all the value chains of service delivery, in a particular facility, is essential for impactful and quality-assured service delivery.[7-9,17]

The limited engagement of private pharmacies in the three countries is a missed opportunity for TB screening and referral, because they are one of the first contact points for presumptive TB cases. This is consistent with practices in other settings, despite the WHO and the International Pharmaceutical Federation having issued such recommendations in 2011. Engaging the private sector is imperative to identify missed TB cases, and to ensure that everyone has access to quality-assured TB treatment that is affordable.[8,18,19]

Study strengths and limitations

This is the first multi-country study in southern Africa to assess the extent to which NTPs are engaging private healthcare providers. The strength of the study lies in the comparative nature of the findings across the four study countries. The findings offer insight into what NTPs can learn from each other, given the variation in the degree to which private sector healthcare providers are involved in TB prevention and control. Other countries in the region and the continent can benefit from the findings about planning, implementation, monitoring and evaluation of public private partnerships in TB prevention and care.

The limitations of the study include information bias. Some key informants who knew the details of the MoU with government had an interest in providing positive feedback, even in cases where the MoU may have lapsed or was not well implemented. Additionally, the lack of data on the perspectives of MoH/NTP and healtcare providers in government prevented triangulation to validate some of the findings in this study.

Recommendations

Governments' clear and robust plans for collaboration with all types of private healthcare providers will scale up the provision of TB care. There is an urgent need for governments to include private healthcare providers in TB care training, to improve the quality of TB services offered by the private sector. There is also a need to foster trust and improve communication between governments and private healthcare providers. Government collaboration with private healthcare providers can reduce the gap of the missing people with TB. These tend to be people who seek services in the private sector and are, therefore, not included in national databases.

CONCLUSION

Private healthcare providers' engagement/collaboration in TB prevention and care in the four countries is heterogeneous, and ranges from non-existent or limited in Mozambique and Zambia, to progressive in Lesotho and Malawi. This is in contrast with the desire expressed by private service providers to work with government/MoH in all study countries. Retail pharmacies were engaged in TB notification only in Malawi. Strategic engagement of the private sector is essential to improve access and use of quality-assured TB prevention and care services, taking the associated challenges, benefits, concerns, and risks into consideration.

KEY MESSAGES

1. Trust is a major determinant of government collaboration with private healthcare providers; where trust is lacking, there is limited collaboration between the parties.
2. Where private healthcare providers recognise the value in collaborating with government, the mechanisms for such collaboration are lacking or weak.
3. There are limited or zero incentives for private sector contributions to TB management in project countries.
4. None of the project countries engaged private retail pharmacies except in Malawi; these pharmacies have proven to be the most difficult for government to engage with.

AUTHOR CONTRIBUTIONS

Conception and design of the study: NK, CC., MDM, OR, TM, BS, TM, ML, WH, TT, VL, DM, PR
Data acquisition: NK, MDM, OR, TM, BS, TM, ML, WH, TT, VL, DM, PR
Data analysis: NK, MDM, OR, TM, BS, TM, ML, WH, TT, VL, DM, PR
Interpretation of the data: NK, MDM, OR, TM, BS, TM, ML, WH, TT, VL, DM, PR
Drafting of the paper: NK, MDM, OR, TM, BS, TM, ML, WH, TT, VL, DM, PR
Critical revision of the paper: NK, MDM, OR, NF, TM, BS, TM, FN, ML, WH, TT, VL, DM, PR

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DECLARATION

The authors declare that this is their own work; all the sources used in this paper have been duly acknowledged and there are no conflicts of interest.

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