



# Building bridges: multidisciplinary teams in tuberculosis prevention and care

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To effectively address the complex sociocultural and financial barriers to TB diagnosis and treatment multifaceted interventions that consider personal factors, like health literacy, and societal dimensions, like stigma and discrimination, are necessary. <https://bit.ly/3Ct6tMw>

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## Abstract

People with or affected by tuberculosis (TB) experience complex social and cultural constraints that may affect treatment outcomes by impeding access to proper care or by hindering treatment adherence. Low levels of health literacy which leads to inadequate disease information; stigma, discrimination and other forms of prejudice that may result in marginalisation and ostracisation; and socioeconomic vulnerabilities that hamper one's capacity to access essential goods or increase the risk of exposure to the disease are some of the barriers highlighted. These complex hurdles are also disproportionately felt by people with or affected by TB due to gender-related inequalities that need to be properly addressed. Additionally, TB prevention and care should encompass interventions aimed at improving and promoting mental health, given that mental unhealth may further thwart treatment adherence and success. A multifaceted and multidisciplinary approach to TB is required to answer these complex barriers.

## Introduction

Managing tuberculosis (TB) effectively requires a multidisciplinary approach that involves professionals with different areas of expertise [1, 2]. Physicians, for one, play a crucial role, as they employ a number of resources to better and more efficiently apply the correct diagnosis. They also prescribe the appropriate anti-TB medications, monitor treatment progress and manage any side-effects or complications that may arise during the course of treatment. Nurses also play an important part in the day-to-day management of TB patients. They provide direct patient care, educate people and their families about TB, and aid in treatment adherence. Epidemiologists and public health experts are also key in TB management by tracking the spread of the disease, identifying high-risk populations, implementing screening and contact tracing programmes, and designing targeted interventions to control the spread of TB. Other healthcare professionals, such as laboratory professionals, will aid in the confirmation of the diagnosis and drug susceptibility testing, features that are important to guide treatment decisions (table 1).

Although accurate diagnosis, proper treatment and infection control are essential, they are not enough [3]. In order to improve treatment adherence and outcomes and reduce transmission of TB in communities, there is a need to involve professionals from other disciplines and civil communities, such as mental health experts or community advisors are also vital in guaranteeing the best treatment outcomes, by analysing and acting on health-related social factors that may influence treatment adherence [4, 5].

In this viewpoint, we analyse the primary challenges faced by people with and affected by TB, while exploring strategies to address them.



**TABLE 1** Contributions of multidisciplinary professionals in tuberculosis (TB) prevention and care

Professional	Role and responsibilities
Physicians	Employ various resources for accurate diagnosis of TB Prescribe appropriate anti-TB medications Monitor treatment progress Manage any side-effects or complications that may arise during treatment
Nurses	Provide direct patient care Educate patients and their families about TB Aid in treatment adherence
Epidemiologists	Track the spread of TB Identify high-risk populations Implement screening and contact tracing programmes Design targeted interventions to control the spread of TB
Public health experts	Assist in tracking and managing the spread of TB Contribute to identifying high-risk populations and implementing control measures
Laboratory professionals	Aid in the confirmation of TB diagnosis Conduct drug susceptibility testing Provide essential information to guide treatment decisions
Mental health experts	Contribute to improving treatment adherence and outcomes Analyse and address mental health factors that may influence treatment adherence
Community advisors and cultural mediators	Play a role in ensuring the best treatment outcomes by considering health-related social factors that may affect treatment adherence

### Complexities of sociocultural barriers

There is a significant deficit in awareness of TB signs and symptoms, as well as in the cruciality of early diagnosis and treatment. Multiple barriers have been reported, including, but not limited to, low literacy levels, stigma, inadequate knowledge of the disease and perceptions of poor quality of care in hospitals by people with TB [6]. In some cultures, TB treatment is affected by traditional and superstitious beliefs, leading to the use of traditional healers or ineffective treatments, rather than seeking medical care for a proper diagnosis [7].

Merely stating that TB is an infectious disease is often insufficient to dispel myths and superstitions that are deeply ingrained in communities [8]. To effectively address these beliefs, it may be necessary to engage influential community members, as they can play a critical role in promoting awareness and acceptance of TB treatment initiatives [8].

Health literacy is a critical factor in treatment-seeking behaviour. Individuals with low health literacy may have difficulty understanding and acting on health information, even if they have access to it. Thus, improving general awareness of hygiene and healthy behaviours is essential for both preventing and treating TB [9].

Health education plays a vital role in TB prevention and care, equipping individuals and communities with the knowledge and resources necessary to effectively prevent and treat the infection. Health professionals must recognise the cultural and social factors that affect TB treatment, such as stigma, discrimination or gender-based barriers, and take proactive measures to address them [9].

### TB stigma and discrimination

People living with TB face additional, often unseen, constraints that stem from discriminatory and stigmatising beliefs and attitudes leading to marginalisation. In fact, the renewed effort to “eradicate the TB epidemic” is hampered by the pervasive stigma [10], which can be felt in a multitude of social settings (*e.g.* home, workplace, communities) [8] and can impede diagnosis, monitoring and treatment [11]. Stigma can jeopardise TB patients’ quality of life, harm their sense of self-worth and self-efficacy, and cause social exclusion and self-repression [12].

### Interventions and challenges

Although TB stigma is an important social determinant of health [13], interventions intended to reduce it are not always implemented, evaluated or reported, or are jeopardised by poor methodological planning,

implementation and assessment [14]. The general public, healthcare professionals and people with TB are the three essential populations targeted by TB stigma reduction interventions, according to NUTTAL *et al.* [14]. These authors pointed out that none of the psychosocial interventions examined had as their primary or co-primary goal the decrease of TB stigma.

The effect of the TB infection calls for the creation of interventions that go beyond “cure” and instead prioritise mental health as a crucial component of therapeutic success. Mental health issues complicate the outcome of TB and must therefore be properly addressed through in-depth psychoeducation, psychological first aid and prompt intervention [5].

### **Overcoming gender-related barriers**

Women face various barriers to accessing TB treatment, including financial dependence, lack of physical autonomy, stigma within their families and relatively low levels of general and TB-related literacy [15]. Women facing gender-based violence or vulnerable situations may encounter additional difficulties accessing TB treatment [15]. Addressing gender-related barriers to TB treatment requires a multifaceted approach that involves improving awareness, providing gender-sensitive care and addressing social and economic barriers [15].

### **Economic barriers to TB care**

Socioeconomic deprivation is multifaceted and includes multiple components that lead to a lack of social and economic essentials [16]. This results in poorer living and working conditions, household overcrowding and malnutrition, which increases the risk of exposure to TB, increases vulnerability to disease and the risk of unsuccessful treatment outcome [16]. The inclusion of more immediate determinants in multiple regression models increases the understanding of the effect of poverty on TB to include multiple pathways and effects [16].

### **Financial toll of TB**

The financial burden to patients with a TB diagnosis and the subsequent care can include medical expenses (*e.g.* consultation fees), non-medical expenses (*e.g.* transportation to healthcare facilities), and indirect costs, such as lost income due to missing days, unemployment or carer time [17]. These costs create barriers to healthcare access and treatment adherence, which in turn negatively affects treatment outcomes and perpetuates TB transmission [17]. These expenses can also adversely affect the socioeconomic condition of TB-affected households, particularly those that are already impoverished [17].

Social support has a key role to reduce this economic burden, that can be delivered according to each individual's needs, such as increasing the coverage of services related to TB or covering related comorbidities and risk factors, eliminating informal fees, exploring social protection for specific vulnerable groups or people with medical conditions, providing assistance for poor or vulnerable families, sickness or disability grants, cash or in-kind transfer programmes and specific allowances (*e.g.* food, transportation) [11]. Many of these initiatives will need a multidisciplinary approach, including involvement outside the health sector [18].

### **Collaborative action for improved health outcomes**

A multidisciplinary approach enables communities affected by TB to receive comprehensive and coordinated care that addresses their medical, social and cultural needs [19]. By working together, professionals from a range of disciplines can provide effective support and assistance to key vulnerable populations, namely refugees and migrants [20, 21]. Healthcare professionals should work to ensure that these populations receive the appropriate medication, care and support, while social workers and mental health professionals can provide counselling and support services to help individuals cope with the emotional and psychological impact of TB.

### **Cultural mediators**

Cultural mediators play a crucial role in facilitating communication between healthcare providers and vulnerable populations, particularly refugees and migrants who may have limited proficiency in the local language or cultural barriers that may prevent them from seeking healthcare services [22, 23]. By helping to bridge the cultural and linguistic divide, cultural mediators can help to ensure that these populations receive appropriate and effective healthcare services, and that healthcare providers understand their cultural, social and linguistic needs [23].

### **People-centred communication**

Healthcare professionals must lean into high-quality, patient-centred communication, embracing patients' concerns, and provide culturally competent care that respects their values and beliefs. Interpersonal channels such as face-to-face communication, regular interaction among healthcare workers and patients are effective methods to address the barriers presented [9]. Every professional must be equipped to address social awareness about TB, dispel myths and misconceptions, and encourage early detection and treatment as an important process in TB diagnosis and treatment [9].

### **Inclusive health systems and digital health technologies**

One of the key recommendations to overcome these barriers and reduce TB burden, is to build more inclusive and equitable health systems (e.g. through the decentralisation of diagnosis) [24]. Primary healthcare is usually the first level of contact with medical services and should be considered the cornerstone of universal health coverage [25]. Primary healthcare can play an important role in promoting early TB detection by identifying at-risk individuals as well as improving treatment adherence through educational interventions [26]. Nevertheless, it remains essential to have experts who can assist clinicians on particularly challenging cases, greatly contributing to positive treatment outcomes and adverse event management [27, 28].

Other strategies to improve adherence include digital health technologies, such as video observed therapy, text message or phone call reminders, medication monitoring boxes and ingestible sensors [29]. These interventions are usually preferred by patients instead of the standard directly observed therapy, since they reduce costs and travel time and have been associated with treatment completion and adherence [26–29].

### **Conclusion**

Collaborative action that engages the community, influential leaders and professionals from diverse fields of expertise is crucial for improving TB prevention and care outcomes. To effectively address the complex sociocultural and financial barriers to TB diagnosis and treatment, multifaceted interventions that consider personal factors like health literacy as well as societal dimensions like stigma and discrimination are necessary. By building bridges between different stakeholders, we can develop successful strategies to end TB and ensure access to timely and appropriate care for all.

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