



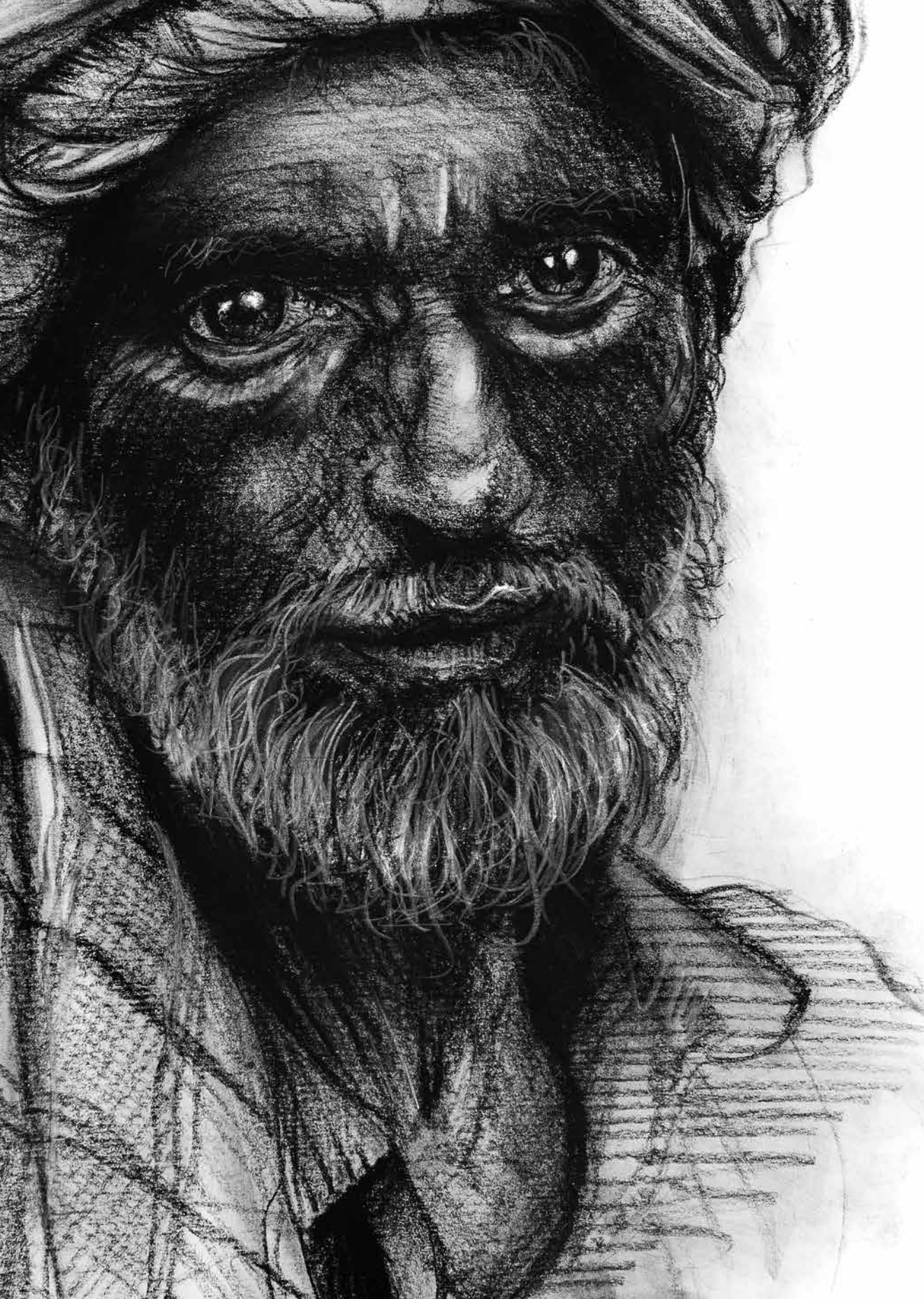
# URBAN POPULATIONS

# STOP TB

KEY  
POPULATIONS  
BRIEF



Stop **TB** Partnership

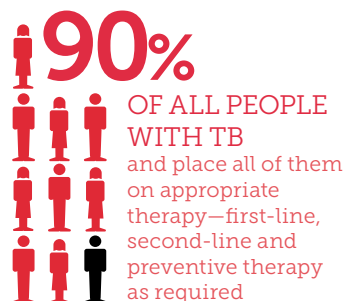


**G**lobally, the prevalence of TB is much higher in urban areas than in rural areas. Around 54% of the world's population now lives in cities, with the most rapid rates of urbanization being witnessed in developing countries. In the developed world, urbanization has led to overall improvements in health, but this trend has not been mirrored in less-developed regions of the world. In these settings, the key social and economic determinants of TB converge on the poorest populations. The inability of public health care services to keep up with the massive population growth in urban centres has led to an expansion of the informal private, for-profit health care sector. These private providers are able to meet their customers' demands by offering services that have been overlooked by the formal health sector, such as longer opening hours, more flexible payment options and more convenient locations. However, lack of regulation in this sector has led to poor quality of care for TB, along with inadequate and inappropriate treatment regimens and management, which contribute to increased drug-resistance and loss to follow-up. Private providers can also exploit low consumer awareness and knowledge about the free TB services available. Social factors, such as poverty, stigma, gender and overcrowding, contribute to the spread of TB and resistance to health seeking among the urban poor. The informal health care sector should be recognized as a crucial stakeholder that needs to be engaged as part of any effort to combat TB in poor urban populations. Improved surveillance data, urban regeneration schemes and social protection initiatives are also important. In addition, as with other stigmatized populations affected by TB, individuals with TB residing in urban areas must be empowered to better understand their rights.

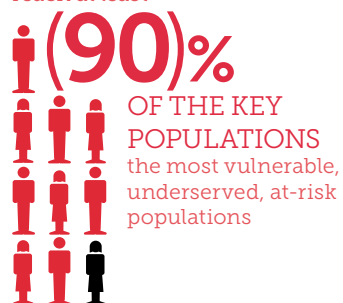
## Global Plan to End TB and key populations

The Global Plan to End TB outlines a number of key targets to be achieved by 2020, or 2025 at the latest. The plan refers to people who are vulnerable, underserved, or at risk as TB “key populations” and provides models for investment packages that will allow countries to achieve the 90–(90)–90 targets<sup>1</sup>. The Plan also suggests that all countries:

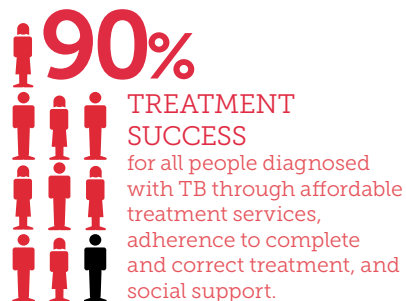
Reach at least



As a part of this approach, reach at least



Achieve at least

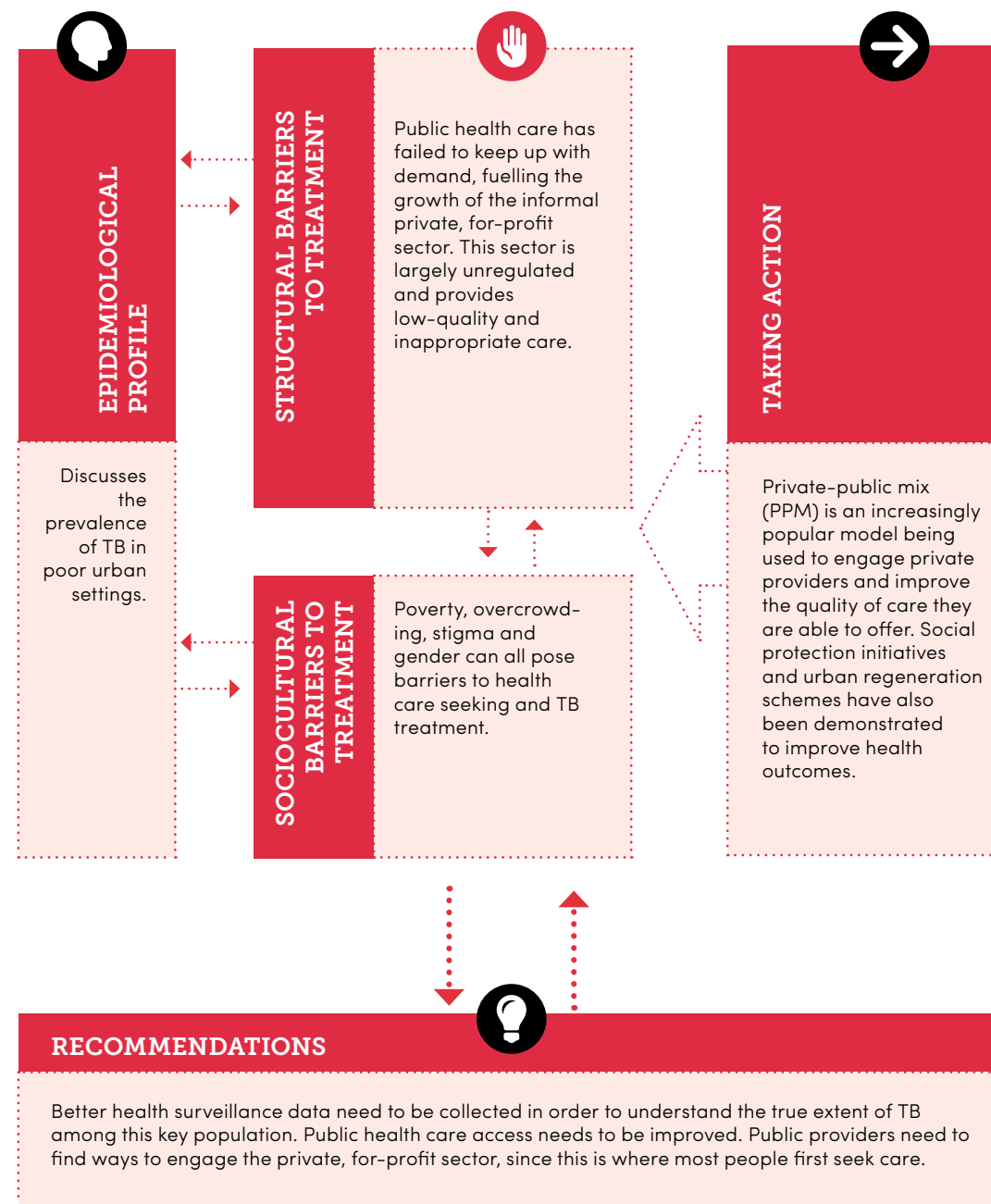


- Identify their key populations at national and subnational levels according to estimates of the risks faced, population size, and particular barriers, including human rights and gender-related barriers, to accessing TB care;
- Set an operational target of reaching at least 90% of people in key populations through improved access to services, rights-based systematic screening where required and new case-finding methods, and providing all people in need with effective and affordable treatment;
- Report on progress with respect to TB using data that are disaggregated by key population;
- Ensure the active participation of key populations in the development and delivery of services and the provision of TB care in safe and respectful environments.

This guide utilizes the above recommendations in order to outline the risks and barriers to access, discuss strategies for improved access, and highlight opportunities for involvement of poor urban populations in all stages of programme development and service delivery.

<sup>1</sup> The 90–(90)–90 plan calls on NTPs to aim to reach 90% of all people with TB and start them on appropriate therapy. As part of this approach, countries should be reaching 90% of key populations. The final part of the strategy is to achieve at least 90% treatment success for all people diagnosed with TB.

## What’s in this guide?





## Epidemiological profile



In general, TB rates are higher in urban areas than in rural settings (1). The world is experiencing the largest surge of urban growth, with over half of the global population now living in towns and cities (2). The most rapid urbanization is being witnessed in less-developed regions of the world, with the urban population of South Asia and sub-Saharan Africa expected to double over the next two decades (3, 4). The health risks related to unchecked urban expansion are disproportionately carried by the urban poor (5). An estimated quarter of the world's urban population now resides in slums, which provide the ideal conditions for the spread of communicable diseases, such as TB. Consequently, such slums serve both as incubators and reservoirs for potential outbreaks (3, 4, 6). In these areas, overcrowding, poverty, malnutrition and suboptimal access to health care converge to define individual exposure and vulnerability to TB (3, 6–8). From the slums and other informal settlements, TB is able to spread to other parts of the urban environment, rural areas and across national borders (3). This is because urban slum dwellers often work in other parts of the city, and rural-to-urban and cross-border mobility is common among poor migrant populations who tend to make up a significant proportion of urban slums (3).

Health data are often collected at the city level, which complicates attempts to identify health disparities that exist within specific districts, such as slums, and makes it difficult to form an accurate epidemiological profile of TB in these areas (9). However, existing studies have demonstrated that TB prevalence is higher in slums than in other urban and rural areas. A study of three slums in southeastern Nigeria found that 6.4% of the population screened had TB (10). Another recent study conducted in Dhaka, Bangladesh found that the prevalence of TB was four times higher in slum areas than it was in the overall urban population (11). In Uganda, the overall prevalence of TB in a Kampala slum was found to be seven times the national prevalence (12).



## Structural barriers to treatment



### Underutilization of public services

In slums, the utilization of public health services tends to be low, with people overwhelmingly seeking health care from the informal private, for-profit sector, even if this represents an out-of-pocket expense (5, 13–19). In India, for example, it is thought that 80% of first-contact health care and almost 50% of TB care is conducted through the private sector (20). A familiar three-step pattern of health-seeking behaviour can be observed among poor urban populations presenting with TB symptoms (21). The first step involves an initial consultation with a pharmacist, which is often accompanied by an over-the-counter purchase of cough medicines or broad-spectrum antibiotics (21). This is followed by one or more consultations with a private provider. After much delay, the individual with TB may finally access diagnosis and treatment in the public sector (21).

The initial underutilization of free government services could be due to a number of factors. Although distance to the nearest health care facility is typically cited as more of a barrier for poor rural populations, the cost of travel to public services can still pose a barrier to access among poor urban dwellers (17, 19, 22). Public services are also often unavailable in slums and other informal urban settlement settings. For example, a survey conducted in three slums in Nairobi, Kenya found that, of the 503 health facilities used by slum residents, only 6 (or 1%) were public, whereas 83% were private, for-profit outfits (23). Lack of awareness of free diagnosis and treatment services, perceived poor quality of care at government centres, inconvenient hours of operation, and stigma could also be barriers preventing the uptake of public services (13–15).



### Lack of regulation in the informal private for-profit sector

The growth of the informal private, for-profit health care sector in poor urban settings has come about as a response to the failure of public services to keep pace with increased demand (15). Private, for-profit providers are able to meet their customers' demands by offering services that have been overlooked by the formal health sector, such as longer opening hours, more flexible payment options and more convenient locations (5, 16, 19, 24).

Despite the growing importance of the private health care sector, many countries have been unable to respond to this rapid growth with appropriate regulatory frameworks, which impacts the quality of care consumers receive (16). In developing countries, a significant proportion of the private sector consists of a range of different practitioners, such as shopkeepers, traditional healers, pharmacy vendors and unaccredited doctors, with no formal medical training (18).



Inadequate and inappropriate treatments prescribed by these practitioners can contribute to the spread and progression of easily preventable diseases, and carry an increased risk of drug-resistant infections, such as multidrug-resistant TB (MDR-TB) (9, 18). TB treatment in the private sector is often of poor quality and does not adhere to recommended diagnostics; moreover, prescribed drug regimens vary from provider to provider (21). One study in Mumbai, India, found that 106 providers had prescribed 63 different regimens (25). The lack of proper treatment management systems also significantly increases the risk of loss to follow-up (21). Furthermore, in order to maximize income and maintain their customer base, private providers can exploit the lack of consumer knowledge and awareness as to the free services available and what constitutes quality care (5, 21).

### Weak case finding

In many high-burden, low-resource settings, passive case finding forms the basis of TB control (6, 11, 12). Passive case finding puts the onus of treatment seeking on the individual with TB symptoms. The health-seeking behaviour of the individual with possible TB is influenced by stigma and discrimination surrounding the disease and other barriers, including distance to the nearest health facility, cost and delays in obtaining a diagnosis (10, 11). Although passive case finding has been shown to be successful in some low-resource settings (26), it is often unable to keep pace with the rapid spread of TB in urban areas. Effective TB control requires early detection and immediate initiation of treatment. However, people who are disadvantaged and marginalized, such as the urban poor, are more likely to delay health seeking, which contributes to the further spread of TB (27).

Trained health care professionals are also often engaged in dual practice (21). Public sector salaries are typically low, and so doctors and pharmacists divide their time between the public sector and their private practices. Such a system can mean that while doctors are working in the public sector, they have weak incentives to offer comprehensive care because of the need to increase referrals to their private practices (21). Also, when the doctor or pharmacist is working in the public sector, their private business is likely to be staffed by family members or employees who may not be trained to dispense drugs and offer medical advice (21). Similarly, the capacity of the public health care system is weakened when trained professionals are engaged in their private work.

Active case finding can be successful in improving case detection in poor urban areas (10–12, 28). A study conducted in Cape Town, South Africa, found that treatment outcomes were the same for actively and passively detected TB cases, but that actively detected cases experienced a higher initial rate of loss to follow-up in their treatment (28). This finding could either be because people identified through active case finding had less motivation to adhere to treatment due to the absence of TB symptoms, or because there were delays in the referrals to obtain treatment (28).

## Sociocultural barriers to treatment



### Poverty

Poor populations are vulnerable to many overlapping risk factors associated with TB (29). TB disproportionately impacts the poor, and the catastrophic costs often associated with the disease can serve to deepen poverty (8). A positive TB diagnosis can lead to loss of employment and housing, and can threaten food security. Poverty also reduces household-level investment in health, education and nutrition, which serves to perpetuate the cycle of poverty throughout the generations. A study in Mumbai, India found that poor urban households lost 30% to 60% of their income following a positive TB diagnosis, with the greatest losses reported when the individual with TB was the main income provider (30).

### Overcrowding

Poor ventilation and overcrowding in homes, workplaces, transport and areas of recreation increase the likelihood of uninfected individuals being exposed to TB (8). Slum dwellings are often characterized by all-purpose rooms where people cook, sleep and live (9). Overcrowding, combined with smoke from cooking fuels, places inhabitants at risk of respiratory illnesses, leaving them vulnerable to TB (9). A study conducted in Manila, Philippines, found that children living in high-density urban squatter settlements were nine times more likely to have TB than children not living in such environments (31).

### Stigma and discrimination

The stigma of TB impacts health seeking and treatment adherence, regardless of setting. Outdated beliefs concerning TB, fear of infection, negative attitudes of health staff, self-stigmatization by individuals with TB, and the blaming and shaming of individuals with TB all contribute to stigma and fuel discrimination (32). This stigma can serve to push already disadvantaged members of society, such as the urban poor, further to the margins.

### Gender

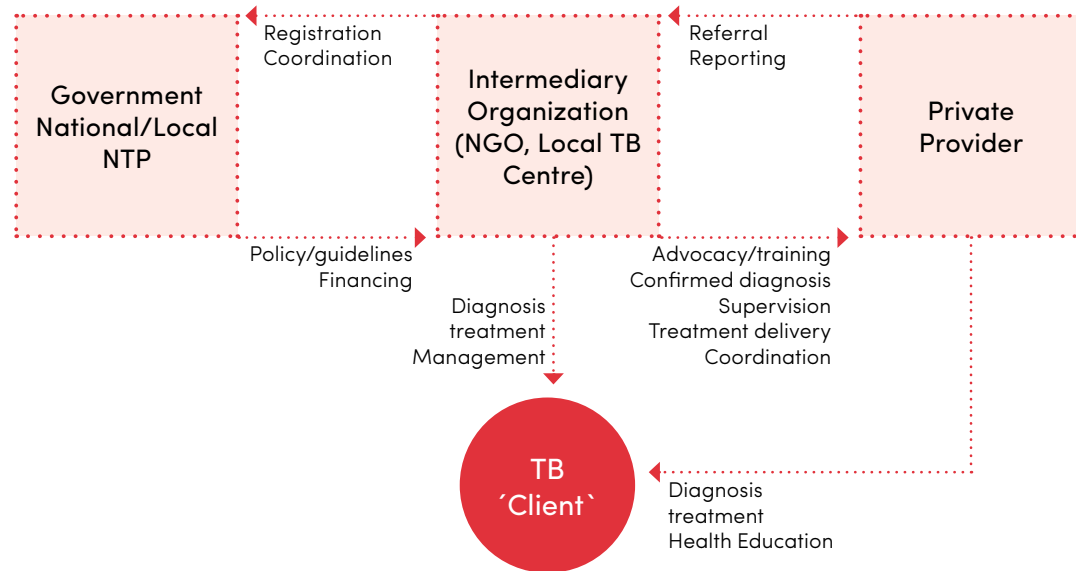
There is very little gender-disaggregated data on TB in urban slums and other informal settlements. A study on health-seeking behaviour in Dhaka, Bangladesh, found that, although TB was more prevalent in male populations, women in urban slums waited longer to seek care for symptoms of TB (11). Although a range of factors, such as costs and distance to the nearest health centre, all serve to reduce demand for health care, men typically face fewer constraints than women (33). Health care access barriers are higher for women in TB endemic areas due to several competing factors, including socio-cultural disempowerment, stigma and a lack of financial resources (34). Gender inequality can serve to enhance women's vulnerability to stigma, which in turn impacts their health-seeking behaviour (35). Women are also at higher risk of TB because they are often the caregivers for other family members with TB (36). Urban women might face additional challenges in terms of travelling to public health facilities on public transport and raising children while men are away at work.

## Taking action

### Engaging the informal private sector: promoting the private-public mix model

The informal private health care sector is deeply entrenched in the health care systems of many urban slums and should not be ignored in any effort to increase health care coverage in these areas (5). Especially in the diagnosis and treatment of TB, various stakeholders working in TB care have recognized the need to engage this sector in order to replace low-quality and inappropriate care with more affordable and accurate diagnosis, treatment and monitoring systems through better training and regulation (21, 24). The private-public mix (PPM) approach provides a framework through which to achieve this engagement, first by identifying what activities can be carried out by private providers and then by identifying organizations that can act as intermediaries between the public and private sectors (21). All PPM programmes tend to embrace certain commonalities. First, governments set policy and guidelines and provide financing for the provision of anti-TB drugs and facilities and to cover other costs. Private providers, as the first point of contact, identify potential TB cases and notify national TB programmes (NTPs) or NTP-affiliated facilities. Referral cases are then received by public health institutions for diagnosis confirmation and commencement of treatment. Treatment and management can then be continued either through the public or private sector (24). Intermediary organizations mobilize and coordinate the various health partners and can sometimes be involved in treatment management (24). These intermediary organizations can also be involved in educating and training schemes focused on private providers. mHealth technologies can be used to standardize the sharing of information between the various stakeholders in the mix and to more effectively keep track of treatment data for people with TB. mHealth could also be deployed to improve access for people with TB.

FIGURE 1. MODEL OF A GENERIC PPM INITIATIVE (ADAPTED FROM LEI ET AL.)



PPMs have been demonstrated to improve case detection, treatment outcomes and access to TB treatment (24). Individual expenditure is also reduced when such schemes are implemented successfully (24). However, the weak regulation and governance of partners involved in the intervention, and lack of communication between the various stakeholders in the mix can impact the success of such initiatives (24).

Examples of PPMs include partnering with unlicensed physicians in slum settings and providing them with small financial incentives to refer individuals with TB symptoms to local TB centres for diagnosis (37). However, financial incentives are not always necessary. Other initiatives have introduced training programmes for pharmacists to recognize the symptoms of TB and to dispense anti-TB medications. Being seen in the community as a reputable business that is able to dispense quality medicines and diagnose TB enhances the reputation of the pharmacists and helps them to maintain their existing client base; it also enables them to fight off competition from less reputable drug dispensers (16). PPM interventions also find ways to inform and empower consumers as to their rights, the services available to them and the level of care they should demand (18).

### Social protection initiatives

Social protection initiatives, such as cash transfers, have been shown to help lift households out of poverty by lessening the impact of economic shocks and allowing individuals and communities to build up their financial, physical and human capital assets (8). Cash transfer schemes provide money to families in exchange for them meeting certain requirements, such as ensuring their children attend school and accessing health services for prenatal checks and growth monitoring (8, 38). These cash transfer initiatives have been found to improve food security, increase house-

hold consumption and improve health-seeking behaviour (8, 39, 40). Cash transfers could be applied to lessen the impact of TB by reducing some of the financial barriers to diagnosis and treatment. Cash transfers could also be provided in exchange for treatment adherence and provided to close contacts of people with TB who present themselves for screening. Cash transfers could also be provided in exchange for participation in TB health education programmes (8).

### Urban regeneration

Rapid urbanization, of the sort being witnessed in Asia and Africa, poses one of the most significant barriers to the implementation of effective TB control. Overcrowding and poor ventilation enable transmission, and inadequate health care coverage in slums discourages health seeking (8). Urban regeneration projects may help to curb the transmission of TB by upgrading the housing stock, thereby reducing overcrowding and improving ventilation. Small infrastructure upgrades in slum areas, such as improving electricity and water supplies, can serve to boost productivity in the local economy and improve health outcomes. However, slums have to be recognized as heterogeneous entities, and any regeneration project should be developed in consultation with the local populations in order to identify the most pressing issues (9).

### Improving surveillance data

Health surveillance data are often collected at the city level, thus masking disparities that occur across different urban settings. There is therefore a need for health surveillance data that take into account the context in which diseases occur and for better data collection methods on slum disease burdens (9). More effective systems of reporting TB to NTPs are essential, and the use of PPMs could help in achieving this.



## Recommendations

While these recommendations provide an outline for action for a range of key stakeholders, others, including UN Agencies and local and global health worker collectives, should take note and assess their potential for use in improving TB prevention, treatment and care in poor urban populations.

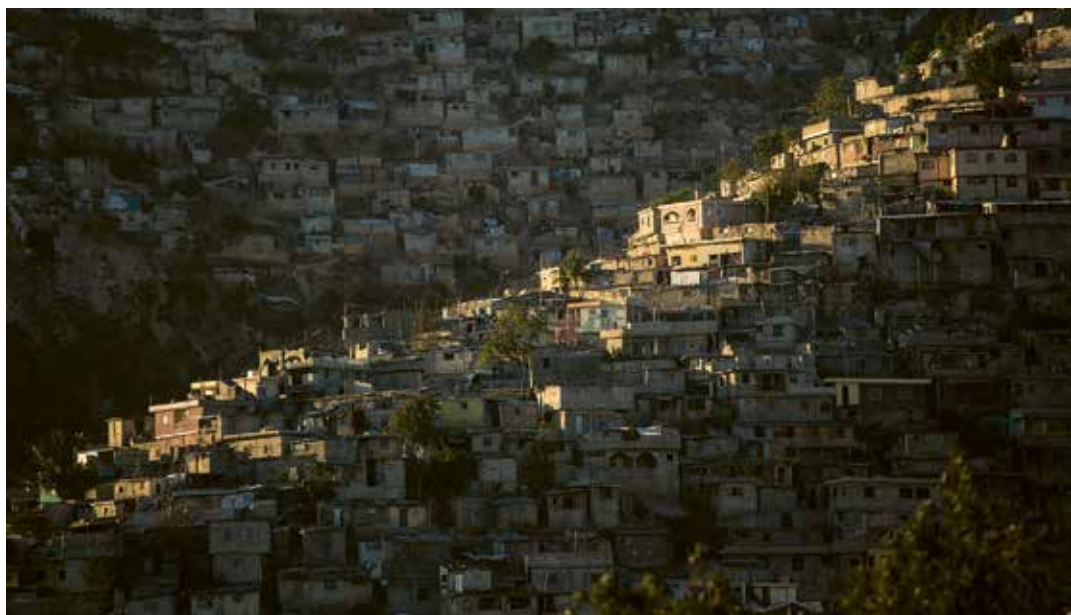
Civil Society	Urban Populations Living with TB	National Health Systems	Donor Community
Work with national governments and urban poor populations to identify barriers to access in specific settings; raise awareness of services already available and negotiate public-private partnerships with NGOs;	Document the barriers faced in access to health care;	Improve health care access in poor urban areas by regulating private health care providers and facilitating public-private partnerships in health care that also involve the community;	Fund interventions (such as PPMs) that could lead to improved health care utilization and access in urban poor populations;
Raise awareness of services available and general health literacy surrounding TB. More people accessing public services will lead to better data;	Provide input into which awareness-raising methods and health literacy messages are best to impact urban populations living with TB;	Improve health surveillance data with specific focus on poor urban areas;	Support national governments with innovative ways to track and monitor diseases in hard to reach urban populations;
Campaign to raise awareness of existing services and conduct education on the importance of treatment adherence;	Conduct service mappings in urban areas and distribute easy-to-access information that can aid in treatment adherence;	Work with and train health care providers who are already working in poor urban settings to improve service delivery and infection control;	Fund programmes that partner with health care providers already working in poor urban areas;
Conduct know your rights campaigns related to TB treatment access in urban areas and advocate for various schemes that can provide relief to urban slum residents with TB;	Work with lawyers' collectives and health advocates to increase rights literacy with regard to access to TB treatment and protections in terms of denial of care;	Promote public health institutions and make access to TB treatment and diagnosis transparent; make concessions and incentives available to urban slum dwellers with TB, such as free bus passes; develop other initiatives that can foster adherence;	Support innovative programming, including mHealth and other incentives and methods, which foster greater adherence to treatment among urban dwellers with TB;
Foster the creation of TB communities in urban slums that can empower and support each other and educate others.	Work to organize for better access to TB care.	Work with people with TB in urban slums to improve treatment adherence.	Support communities of people with TB and organizations working with them in urban areas.

## References



- Global tuberculosis report 2014. Geneva: World Health Organization; 2014.
- Urbanization. New York: United Nations Population Fund; 2015 (<http://www.unfpa.org/urbanization>, accessed 26 October 2015).
- Alirol E, Getaz L, Stoll B, Chappuis F, Loutan L. Urbanisation and infectious diseases in a globalised world. *Lancet Infect Dis.* 2011;11(2):131–41.
- World Habitat Day: Background paper. Nairobi: United Nations Human Settlements Programme; 2014.
- Adams AM, Islam R, Ahmed T. Who serves the urban poor? A geospatial and descriptive analysis of health services in slum settlements in Dhaka, Bangladesh. *Health Policy Plan.* 2015;30(Suppl 1):i32–i45.
- Oppong JR, Mayer J, Oren E. The global health threat of African urban slums: the exam-ple of urban tuberculosis. *African Geographical Review.* 2015;34(2):182–95.
- Vlahov D, Freudenberg N, Proietti F, Ompad D, Quinn A, Nandi V, et al. Urban as a de-terminant of health. *J Urban Health.* 2007;84(Suppl 1):16–26.
- Hargreaves JR, Boccia D, Evans CA, Adato M, Petticrew M, Porter J. The social deter-minants of tuberculosis: from evidence to action. *Am J Public Health.* 2011;101(4):654–62.
- Unger A, Riley LW. Slum health: from understanding to action. *PLoS Med.* 2007;4(10):1561–6.
- Ogbudebe CL, Chukwu JN, Nwafor CC, Meka AO, Ekeke N, Madichie NO, et al. Reach-ing the underserved: active tuberculosis case finding in urban slums in southeastern Nigeria. *Int J Mycobacteriol.* 2015;4(1):18–24.
- Banu S, Rahman MT, Uddin MKM, Khatun R, Ahmed T, Rahman MM, et al. Epidemi-ology of tuberculosis in an urban slum of Dhaka City, Bangladesh. *PLoS One.* 2013;8(10):e77721.
- Sekandi J, Neuhauser D, Smyth K, Whalen C. Active case finding of undetected tubercu-losis among chronic coughers in a slum setting in Kampala, Uganda. *Int J Tuberc Lung Dis.* 2009;13(4):508.
- Sharma N, Taneja D, Pagare D, Saha R, Vashist R, Ingle G. The impact of an IEC cam-paign on tuberculosis aware-ness and health seeking behaviour in Delhi, India. *Int J Tuberc Lung Dis.* 2005;9(11):1259–65.
- Suganthi P, Chadha V, Ahmed J, Umadevi G, Kumar P, Srivastava R, et al. Health seek-ing and knowledge about tuberculosis among persons with pulmonary symptoms and tuberculo-sis cases in Bangalore slums. *Int J Tuberc Lung Dis.* 2008;12(11):1268–73.
- Saw S, Manderson L, Bandyopadhyay M, Sein TT, Mon MM, Maung W. Public and/or private health care: Tuberculosis patients' perspectives in Myanmar. *Health Res Policy Syst.* 2009;7(1):19.
- Bloom G, Standing H, Lucas H, Bhuiya A, Oladepo O, Peters DH. Making health mar-kets work better for poor people: the case of informal providers. *Health Policy Plan.* 2011;26(Suppl 1):i45–i52.
- Mili D. Migration and healthcare: access to healthcare services by migrants settled in Shivaji Nagar Slum of Mumbai, India. *The Health.* 2011;2(3):82–5.
- Shah NM, Brieger WR, Peters DH. Can interventions improve health services from in-formal private pro-viders in low and middle-income countries? A com-prehensive review of the literature. *Health Policy Plan.* 2011;26(4):275–87.
- Jahan NA, Howlader SR, Sultana N, Ishaq F, Sikder ZH, Rahman T. Health care seeking behavior of slum-dwellers in Dhaka City. Report prepared for Health Economics Unit of MoHFW and World Health Organization; 2015.
- Satyanarayana S, Subbaraman R, Shete P, Gore G, Das J, Cattamanchi A, et al. Quality of tuberculosis care in India: a systematic review. *Int J Tuberc Lung Dis.* 2015;19(7):751–63.
- Wells WA, Uplekar M, Pai M. Achieving systemic and scal-able private sector engage-ment in tuberculosis care and prevention in Asia. *PLoS Med.* 2015;12(6):e1001842.
- Goli S, Arokiasamy P, Chattopadhyay A. Living and health conditions of selected cities in India: setting pri-orities for the National Urban Health Mission. *Cities.* 2011;28(5):461–9.
- Fotso JC, Mukiira C. Perceived quality of and access to care among poor urban women in Kenya and their utili-zation of delivery care: harnessing the potential of private clinics? *Health Policy Plan.* 2012;27(6):505–15.
- Lei X, Liu Q, Escobar E, Philogene J, Zhu H, Wang Y, et al. Public-private mix for tu-berculosis care and control: a systematic review. *Int J Infect Dis.* 2015;34:20–32.
- Udwadia ZF, Pinto L, Uplekar M. Tuberculosis manage-ment by private practitioners in Mumbai, India: has any-thing changed in two decades? *PLoS One.* 2010;5:e12023.
- Shargie EB, Lindtjorn B. DOTS improves treatment out-comes and service coverage for tuberculosis in South Ethiopia: a retrospective trend analysis. *BMC Public Health.* 2005;5(1):62.
- Storla DG, Yimer S, Bjune GA. A systematic review of delay in the diagnosis and treat-ment of tuberculosis. *BMC Public Health.* 2008;8(1):15.

28. Den Boon S, Verver S, Lombard C, Bateman E, Irusen E, Enarson D, et al. Comparison of symptoms and treatment outcomes between actively and passively detected tuberculosis cases: the additional value of active case finding. *Epidemiol Infect.* 2008;136(10):1342–9.
29. Oxlade O, Murray M. Tuberculosis and poverty: why are the poor at greater risk in India? *PLoS One.* 2012;7(11):e47533.
30. Fighting TB in the slums of Mumbai. IFPMA; 2013 (<http://partnerships.ifpma.org/partnership/fighting-tb-in-the-slums-of-mumbai>, accessed 29 October 2014).
31. Fry S, Cousins B, Olivola K. Health of children living in urban slums in Asia and the near east: Review of existing literature and data. Washington, DC: Environmental Health Project, US Agency for International Development; 2002.
32. Dodor E, Neal K, Kelly S. An exploration of the causes of tuberculosis stigma in an urban district in Ghana. *Int J Tuberc Lung Dis.* 2008;12(9):1048–54.
33. Muriithi MK. The determinants of health-seeking behavior in a Nairobi Slum, Kenya. *European Scientific Journal.* 2013;9(8).
34. Marais BJ, Gupta A, Starke JR, El Sony A. Tuberculosis in women and children. *Lancet.* 2010;375(9731):2057–9.
35. Cremers AL, de Laat MM, Kapata N, Gerrets R, Klipstein-Grobusch K, Grobusch MP. Assessing the consequences of stigma for tuberculosis patients in urban Zambia. *PLoS One.* 2015;10(3):e0119861.
36. Buregyeya E, Kulane A, Colebunders R, Wajja A, Kiguli J, Mayanja H, et al. Tuberculosis knowledge, attitudes and health-seeking behaviour in rural Uganda. *Int J Tuberc Lung Dis.* 2011;15(7):938–42.
37. Yaccino S. Fighting tuberculosis in India's slums. Chicago: University of Chicago; 2014 (<http://harris.uchicago.edu/news-and-events/features/alumni-profile/fighting-tuberculosis-indias-slums>, accessed 29 October 2015).
38. Lagarde M, Haines A, Palmer N. The impact of conditional cash transfers on health outcomes and use of health services in low and middle income countries. *Cochrane Database Syst. Rev.* 2009;4(4):CD008137.
39. Attanasio O, Gómez LC, Heredia P, Vera-Hernandez M. The short-term impact of a conditional cash subsidy on child health and nutrition in Colombia. Report summary: *Familias.* 2005;3.
40. Fenwick TB. Avoiding governors: the success of Bolsa Familia. *Latin American Research Review.* 2009;44(1):102–31.



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Chemin de Blandonnet 2,

1241 Vernier

Geneva, Switzerland

[www.stoptb.org](http://www.stoptb.org)