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Gender and key population disparities in tuberculosis programs in Cambodia: findings from a national assessment

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Abstract

Background Globally, the successes in tuberculosis (TB) programs are hampered by the challenges in new case identification, particularly in key and vulnerable populations. Identification of gaps in the programs in response to gender and key population sensitivity is crucial in reaching the un-identified cases. This study aims to define TB key populations, assess gender- and key population-specific issues, and identify successes and gaps in the national TB response in Cambodia.

Methods This national assessment was conducted in 2018 through a consultative workshop and a validation workshop with representatives of multi-stakeholder groups, a desk review of documents from all levels of the national health system, and 19 in-depth interviews and 30 focus group discussions with policymakers, service providers, and representatives of key populations. Content analysis was conducted for qualitative interviews.

Results We identified seven TB key populations to be prioritized for the national TB programs in Cambodia. Key themes that inhibit access to TB services included the lack of knowledge and awareness, distance to TB clinics, lack of time and financial means, and other systemic barriers such as inconsistencies in policy and guideline implementation at different levels of the health system and lack of financial and human resources required for effective program implementation. We did not find any indications of discriminatory practices against women and key populations. In general, community participation in the national TB response was encouraging. However, there were significant gaps in data and reporting system at all levels, which are required to understand the burden of TB and risk behaviors in genders and key populations.

Conclusions Disparities in gender and key populations are well-recognized in Cambodia. Barriers to TB services faced by key populations ought to be addressed through consistent engagements with different stakeholders. Data availability is vital for enhancing the understanding of gender and key population gaps, and the existing data should be duly utilized. Mechanisms to ensure equality and inclusivity are necessary to end TB in Cambodia.

Background

Tuberculosis (TB) is a leading infectious cause of morbidity and mortality worldwide, accounting for 10 million new cases and 1.6 million deaths in 2017 [1]. The disease burden is disproportionately concentrated in low- and middle-income countries, contributing to over 95% of total TB deaths globally [2, 3]. Cambodia is one of the 30 countries with the world's highest burden of TB, with an incidence of active TB of 326 (95% CI: 224–447) per 100,000 population in 2017 [1, 4]. Through the years, the national TB control programs in Cambodia have achieved significant milestones made possible by committed partners and focused efforts at the grassroots, national, and international levels. In 2016, the TB incidence was approximately half of that in the year 2000, and a similar decline was observed in the TB mortality rate [5].

However, the successes are hampered by a significant proportion of under-diagnosed cases. Globally, it is estimated that 36% of people with TB were undiagnosed in 2017, and a similar proportion is observed in Cambodia [1, 5]. To effectively reduce under-diagnoses, the National Strategic Plan for Control of Tuberculosis (2014–2020) has introduced a package of activities for both active and passive case finding strategies among key populations, i.e. people living with HIV, TB contacts, people aged 55 and older, people with diabetes, pregnant women, migrant workers, and prisoners [6]. The World Health Organization (WHO) recommends systematic TB screening among key populations at disproportionate risk of the infection [1]. However, the priority and definitions of these populations need to be reviewed and contextualized in light of the changes in the epidemic and global directions.

In 2017, approximately 3.2 million women fell ill with TB, and it was one of the top six causes of death among women aged between 15 to 49 years, globally [7]. In Cambodia, women accounted for 51% of the total population and 45% of TB cases detected in 2016 [8]. Low literacy, family responsibilities, stigma, and cultural and financial barriers continue to render women vulnerable to TB [7, 9]. Karim and colleagues reported that women experienced longer delay at various clinical stages of TB care and treatment [10]. These findings suggest that TB care and treatment seeking behavior among men and women requires a systematic assessment from a gender perspective to inform national planning of gender-specific responses.

Given the need for gender and key population specific approaches, Stop TB Partnership and UNAIDS jointly developed a gender assessment tool and action framework for TB key populations to evaluate the national TB responses in countries affected by the epidemic [11, 12]. A few countries have used the tool and framework to assess the national TB responses from the gender and key population perspective and provide recommendations for gender-sensitive and key population-specific interventions [13, 14]. However, to the best of our knowledge, no key population assessment has been conducted in any other countries since the tool has been disseminated. In this study, we adopted the assessment tool and framework to: (1) define the key populations for TB, (2) assess gender- and key population-specific issues, and (3) identify successes and gaps in the national TB response in Cambodia.

Methods

This study was approved by the National Ethics Committee for Health Research, Ministry of Health, Cambodia (Ref 226 NECHR). The national assessment was conducted in three stages between September and December 2017 by the National Center for Tuberculosis and Leprosy Control (CENAT) under technical support of KHANA Center for Population Health Research and Stop TB Partnership.

First, we employed the consensus development method [15, 16] through a two-day consultative workshop held with 70 participants and a validation workshop with participants representing all levels of the national health system in Cambodia and communities included in the multi-stakeholder technical working groups (Table 1). The workshops sought to gather information required for the assessment, opinions on gender- and key population-specific barriers to quality TB services, and the definition and

prioritization of key populations and to validate the preliminary findings with the participants, respectively. Opinions gathered from the participants were synthesized, and conclusions were derived through a reflexive process. The participants also ranked the key populations to be prioritized for the national TB response. The participants were grouped into teams of five. Each group was tasked to score a list of 20 key populations up with a minimum of one point to a maximum of 10 using a scoring framework illustrated in Appendix 1. The scores from all groups were tabulated and the combined scores were used to rank the top five key populations to be prioritized.

Table 1
Members of the multi-stakeholder technical working group

Organizations/Groups
National Center for Tuberculosis and Leprosy Control (CENAT)
National Center for HIV/AIDS, Dermatology, and STD (NCHADS)
Ministry of Women Affairs (MoWA)
General Directorate of Prisons (GDP)
Non-governmental organizations: - KHANA - Cambodia Anti-Tuberculosis Association (CATA) - Reproductive and Child Health Alliance (RACHA) - Reproductive Health Association of Cambodia (RHAC) - Cambodia Health Committee (CHC) - Catholic Relief Services (CRS) - Operation ASHA (Op-ASHA)
United Nations and donor agencies - World Health Organization (WHO) - United States Agency for International Development (USAID)
Community and key population representatives

Second, we conducted a comprehensive desk review of documents from all levels of the national health system – national programs, provincial health departments, operational districts, health centers, and aid agencies – to obtain information on gender- and key population-related policies and intervention programs in the national TB response (Table 2).

Table 2
Key sources of information included in the desk review for the assessment

Documents	Year	Author/Publisher	References
National Strategic Development Plan 2014–2018	2014	Ministry of Planning	20
Health Strategic Plan 2008–2015	2008	Ministry of Health	21
Health Strategic Plan 2016–2020	2016	Department of Planning and Health Information	22
National Strategic Plan for Comprehensive and Multi-Sectoral Response to HIV and AIDS III 2011–2015	2010	National Center for HIV/AIDS, Dermatology and STD	23
National Strategic Plan for HIV/AIDS and Prevention and Control in the Health Sector 2016–2020	2016	National AIDS Authority	24
Cambodia Inter-censal Population Survey 2013	2013	National Institute of Statistics	25
Population Projection of Cambodia 2013–2023	2013	National Institute of Statistics	26
National Strategic Plan for Control of Tuberculosis 2014–2020	2014	National Center for Tuberculosis and Leprosy Control	5
Strategic Plan for HIV/AIDS and STI Prevention Control in the Health Sector in Cambodia 2015–2020	2014	National Center for HIV/AIDS, Dermatology and STD	27
Cambodia Demographic and Health Survey 2014	2015	National Institute of Statistics	28
Action Framework for Tuberculosis Key Population	2017	Stop TB Partnership and UNAIDS	10
Gender Assessment Tool for National HIV and TB Response	2017	Stop TB Partnership and UNAIDS	11
Progress Report of National Center for HIV/AIDS, Dermatology and STD and National Center for Tuberculosis and Leprosy Control 2016	2016	National Center for Tuberculosis and Leprosy Control	29

Abbreviations: HIV, human immunodeficiency virus; AIDS, acquired immunodeficiency syndrome; STD, sexually transmitted disease; STI, sexually transmitted infections.

Third, we conducted 19 in-depth interviews (IDIs) with policymakers and implementers in relevant national programs, provincial health departments, operational districts, and health centers as well as

representatives of non-governmental organizations (NGOs), aid agencies, TB affected communities, and key populations. Thirty focus group discussions (FGDs) were conducted with nine groups of participants in the capital city of Phnom Penh and six other provinces (Banteay Meanchey, Kampong Chhnang, Prey Veng, Siem Reap, and Takeo). The participant groups included people living with HIV, people with diabetes, elderly aged 55 and above, TB contacts, and people who use and inject drugs (PWUD/PWID). A total of 206 individuals participated in the FGDs. A stratified purposive sampling method was employed to recruit the study participants. Potential participants for the IDIs and FGDs were invited either in-person or via the telephone calls, and emails. All participants provided verbal informed consent before the data collection started.

The data collection was performed by a group of four gender-balanced field data collectors with experience in qualitative research and under close supervision of the principal investigators. A two-day training was conducted to orientate data collectors on the project. Information on the study and its objectives were provided verbally to potential participants. Interviews were arranged with those who agreed to partake at a time and location of their convenience. Each IDI and FGD took between 30 to 45 minutes to complete, and they were audio-recorded and subsequently transcribed verbatim. Participants were reimbursed for their time and effort (equal to USD 5) at the end of the participation.

The IDIs and FGDs were conducted using a semi-structured guide in Khmer. The guide comprised of broad themes to understand the policies protecting gender equality and the rights of other TB key populations, barriers in access to TB services, and current gaps in TB control and prevention efforts. The guide was pilot-tested at the TB clinic of the National Center for Tuberculosis Control and Leprosy Control and the Phnom Penh Municipal Hospital. Individuals who participated in the pilot study were excluded from the main study.

Content analyses were performed on qualitative data using NVIVO 10 (QSR International) by retrieving and categorizing textual references based on the main interview questions. Emerged themes were added to the codebook. Conclusions and recommendations were drawn from pre-existing and emerged themes. Qualitative data were triangulated with findings from the desk review for a comprehensive situational gender and key population assessment of the national TB response in Cambodia.

Results

TB key populations to be prioritized

The decision on what key populations would be included in this assessment were first guided by the groups delineated in the National Strategic Plan for Tuberculosis Control [6]. Figure 1 summarizes the votes among the 70 participants (five groups) at the consultative stakeholder workshop.

Abbreviations: PLHIV, people living with HIV; HIV, human immunodeficiency virus; TB, tuberculosis.

The estimated population size of the prioritized key populations was collated separately and presented in Table 3. In addition to the top five key populations prioritized through the stakeholder workshop, PWUD and PWID were added to the list after a thorough discussion with the project steering committee and the sub-technical working group (Table 2). Therefore, seven TB key populations were proposed to be included in this assessment and prioritized for national TB response.

Table 3
Estimated population size of tuberculosis key populations in Cambodia

Key Populations	Size Estimate (median)	Estimate reliability	Source
People living with HIV	72,607	High	NCHADS, 2016
TB contacts (household contact)	79,585	Medium	Average household size: 4.6 (CDHS, 2015) Index case for the last two years of Smear+ (2015 and 2016): 22,107 (CENAT, 2017)
TB contacts (close contact)	Lower bound: 221,070 Upper bound: 331,605	Medium	A person with active TB may have interaction with on average 10–15 people if untreated (WHO, 2017) Index case of Smear+: 22,107 (CENAT, 2017)
Elderly people	1,795,415	High	NIS, 2017
People with diabetes	Lower bound: 205,502 Upper bound: 418,090	Medium	2.9% of 25–64 (UHS/WHO, 2010) 5.9% of 30–69 (WHO, 2016) 7,086,277 aged 25–64 (NIS, 2017)
Prisoners	22,801	High	GDP, 2016
PWUD	13,000	High	NACD, 2012
PWID	1,303	High	NACD, 2012

Abbreviations: CDHS, Cambodia Demographic and Health Survey; CENAT, National Center for Tuberculosis and Leprosy Control; GDP, General Department of Prison; NACD, National Authority for Combating Drugs; NCHADS, National Center for HIV/AIDS, Dermatology and STD; NIS, National Institute of Statistics; PWID, people who inject drugs; PWUD, people who use drugs; TB, tuberculosis; UHS, University of Health Science; WHO, World Health Organization.

Barriers to TB services

Lack of knowledge and awareness about TB

Participants described the lack of TB knowledge and awareness as one of the major barriers to TB services. Among people living with HIV, the lack of knowledge regarding TB as a common opportunistic infection was highlighted, and they recommended that all individuals newly diagnosed with HIV should undergo TB screening. The stakeholders identified the lack of knowledge about TB services and misconception of TB risks among elderly as barriers for elderly people to access TB services. The general lack of awareness of TB was also raised by the participants when they discussed barriers faced by people with diabetes, prisoners, and PWUD/PWID.

Generally, TB is easy to spread because first of all, elderly people don't understand about TB. Most of them said that they are coughing because of just severe cold. Then, they don't protect themselves, because they think that their body is strong, therefore they wouldn't have TB. (IDI with a male operational district staff)

Distance to the nearest TB clinic

A major barrier to TB services was the long travel distance between home and the closest clinic for TB services. In rural areas, IDI participants reported that it was difficult for people who do not have a motorbike or money to hire a vehicle to visit a TB clinic for screening and treatment services, although the services are free of charge, as they live far away from the nearest health center.

We treat all TB patient for Free. They only need transportation to get medication every morning at the health center. The most common issue related to the patients themselves is that they said it's hard for them to come to the health center every morning to get medication because they don't have transportation. Some of them live far away from the health center. (IDI with a female health center staff)

Lack of economic means

The lack of time and financial means to travel to a TB clinic may limit access to quality TB services, particularly for key populations. People with other chronic co-morbidities such as diabetes may feel demotivated to seek TB services due to financial burden as treatment and care for diabetes are mostly out-of-pocket. Participants highlighted competing work and family commitments, and some people with TB symptoms cannot afford to take time off to go to a TB clinic for screening, even if they know that TB services are 100% free.

While they are taking that TB medication or when they get side effects from the drugs, how do they have energy to work for their family's income? Therefore, they would decide to abandon the medication. Whether they are cured or not, it's no longer important. They would give it up to work to support their family, meaning that their treatment has already failed. They said they would die for their family's living. (FGD with a female people living with HIV)

The competition was more apparent among women to be evaluated for TB.

Our women at home have 10 types of work, while men only go to do only one construction work. When they come back in afternoon, they say they are very tired. So women have to take care all the housework

(FGD with a female people living with HIV)

Lack of implementation of TB screening guidelines and resources at health centers

While TB service providers and stakeholders noticed that prisoners have little knowledge of how to prevent TB in prisons, FGDs with prisoners and other stakeholders reported that prisoners were not always screened for TB as stated in the guidelines when they entered the prison. They reported that prisoners with TB would only get noticed by correctional officers only when they got very sick.

In my opinion, I think we should have health check-up service for them inside the prisons because we don't know who has it, or who doesn't. We should check on all of them, encourage them to get health check-up. (FGD with a female member of a village health support group)

Stakeholders identified a lack of resources for TB screening and diagnosis at some health centers. In these health facilities, sputum samples have to be delivered and assessed at referral hospitals resulting in delayed diagnosis.

I think that at some health centers, we are still lacking (of resources) at this point that we deliver the smears for testing at the provincial hospital. Too late. I think this is still a problem. (IDI with a female member of a village health support group)

Indication of discriminatory or coercive practices against women and key populations

There was a consensus among the stakeholders across all sites covered in the assessment that there was no discrimination against or coercive practices on people with TB from the health service providers at all levels irrespective of the gender and towards all key populations. Stigma, especially among people with TB, reportedly exists, and there have been some instances in which some degree of discrimination within their communities, especially the immediate neighborhood, exist.

They told their child to not play with my child. I heard they talked like that, and I felt really offended when they look down on my child. (FGD with a female people living with HIV)

Service providers, NGOs working on TB, and some target key populations indicated that internal stigma is sometimes a case in point, irrespective of gender.

The assessment team attempted to examine whether there were any discriminatory or coercive practices from law enforcement officers, including local authorities, towards people with TB. No reports of discriminatory or coercive practices from them onto people with TB were found.

TB policies for gender and key populations

Inclusion and recognition of gender and key populations in the national TB response

The National Strategic Plan for Tuberculosis Control (2014–2020), the principal guiding document for program interventions for the national TB response in Cambodia, specified that ‘everyone’ residing in Cambodia is entitled to access TB services free of charges [6]. In addition to the key populations outlined in Fig. 1, the technical guidelines published by the National Center for Tuberculosis and Leprosy Control provided guidance to manage other vulnerable groups such as people affected by multi-drug resistance TB, children, pregnant women, and people with liver disorders [17]. There was a consensus from the consultative workshop that no key populations were excluded from the national TB response. FGDs with both TB service recipients and providers did not reveal sentiments of gender-based discrimination and violations of rights.

There are no discriminations in TB service. We treat patients for free without forcing them. (IDI with a male operational district staff)

People can get treatment voluntarily with confidentiality and without discrimination, regardless of their nationality, or whether they are poor, elderly, or small children – doctors (providers) treat them all. (IDI with a male TB survivor)

Funding sources and allocation

In Cambodia, the national TB response was predominantly funded by foreign agencies (Fig. 2 and Table 4) [18]. Domestic funding remained low, but there was a sign of increment from 11% in 2012 to 18% in 2016. From the desk review and IDIs with policy makers and implementers at the national level, there were considerations for key populations such as the elderly and prisoners in the budget planning and allocation but not based on gender. There was no systematic documentation of expenditures on TB programs by gender.

Table 4
Funding sources and amount (in USD) for the national tuberculosis response

	2012	2013	2014	2015	2016
Total	14,108,469	13,549,308	14,607,707	12,370,879	13,533,578
Domestic	1,531,870	1,718,114	1,886,609	2,327,395	2,448,770
GFATM	4,493,802	3,074,528	3,588,712	2,580,342	5,301,266
United States government (USAID and US-CDC)	5,295,632	5,213,800	5,200,000	4,750,000	4,450,000
Others bi-&multi-lateral donors	2,787,165	3,542,866	3,932,386	2,713,142	1,333,542

Abbreviations: GFATM, Global Fund to Fight AIDS, Tuberculosis, and Malaria; USAID, United States Agency for International Development; US-CDC, United States Center for Disease Control; USD, United States dollar.

Community participation in the national TB response

Overall, there were coordination mechanisms and platforms that enabled non-governmental and civil society organizations, development partners, and representative of key populations to participate in the design and implementation of the national TB response [19]. For instance, former TB patients and local communities actively participated in TB activities through the village health support groups. Participants of the village health support groups were trained to refer people who might have TB, support sputum collection, and support patients on treatment in the village. This community participation in the TB response formed part of the community directly observed treatment, short-course (C-DOTS) initiative, which was started in 2002 and has expanded to 861 health centers nationwide [19]. IDI participants also reaffirmed the existence of community participation in the national TB response.

We have network from the national level to department level, to operational district level, to health center, and until the Community level. At the community level, there are authorities such as village chief, commune chief, and district chief who help support us and volunteer groups in the village. (IDI with a male operational district staff)

Needs for better documentation and understanding of TB by gender and key populations

In Cambodia, there were no official estimates of the national population size of TB key populations. The precision of the currently available estimates (Table 4) needs to be periodically verified. From the desk review and IDIs with the national policy makers and implementers, CENAT conducted two national TB prevalence surveys – the first one in 2002 [20] and the most recent one in 2011 [21] to estimate the prevalence of TB and care-seeking behaviors among the general population in the country. However, data on the prevalence and risk behaviors among TB key populations were not available. Also, the national TB response did not disaggregate financial data based on gender and age group.

Discussion

This study presents a summary of key stakeholders' perceptions and views on gender- and key population-specific issues in the national TB response in Cambodia. Issues inhibiting key populations from seeking care and disparities from the perspective of policy, funding, and community engagement were discussed. Gender gaps were also identified.

Misperception about TB still exists. While there are some sources of financial support for the poor and the elderly such as the social equity fund and other social fund run by NGOs, the sources are not widely known to the potential beneficiaries and are thus under-utilized [5]. Therefore, effort should be channeled towards the general population and especially the key populations to educate and raise awareness. Efforts need to be made to strengthen the inclusion of basic TB knowledge into the general education curriculum. As most TB cases are diagnosed at the health centers level [22], improving the diagnostic capacities of health centers would support prompt initiation of TB treatment.

While the national TB response has integrated considerations on gender and key populations into its operations inclusivity can be improved in the areas of activity planning, budget allocation, program implementation, monitoring, and evaluation. For instance, awareness of disproportionate risk for TB in genders and key populations should be raised among health providers, including the village health support groups. Awareness raising initiatives may include, but are not limited to, guidelines revision and pre-service training for health workers. Therefore, financial, technical, and political support to integrate gender- and key population-specific issues into the training program is warranted.

The current platforms for inter-agency collaboration should be fully capitalized for a more holistic response. A few mechanisms for community involvement in the TB response such as C-DOTS have been known to be effective and efficient to fight TB. These mechanisms for the community and affected populations to get involved in the provision of TB services need to be strengthened, enforced, and funded. At the national level, active engagement of other key ministries and central agencies is needed to guide TB policy formulation and implementation.

The lack of population size estimates and TB prevalence data among the key populations highlights the challenges in programs planning, evaluation, and resources allocation. Hence, routine inclusion of these questions in a nationally representative survey, such as the national TB prevalence survey is necessary. In general, TB reporting and data management system must be robustly maintained and utilized to inform program design and policy formulation.

This study is subject to several limitations. Responses from the study participants may have been subject to social desirability bias especially questions on service quality. We sought to minimize this error by eliciting perspectives of both service recipients and providers in separate settings. We did not conduct IDIs with representatives of NGOs and development partners. Nevertheless, they participated via the project steering committee and its sub-technical working group and consultative and validation workshops.

Conclusions

Cambodia has achieved significantly in its fight against TB. These successes have been achieved via concerted effort from all stakeholders from local, national, and international levels. Besides, gender and key population disparities are well recognized, either formally or implicitly. However, ending TB in the country will require, among others, adoption of more proactive prevention and treatment measures, sufficient funding, and coordination and collaboration among the health sector itself and beyond. Mechanisms to ensure equity and inclusivity are necessary. Gender- and key population-specific measures will also be required to make the interventions more focused and targeted. Data availability and its due utilization to inform prevention and treatment will be necessary.

Abbreviations

AIDS	Acquired immune deficiency syndrome
C-DOT	Community directly observed treatment, short-course
CENAT	National Center for Tuberculosis and Leprosy Control
CI	Confidence interval
FGD	Focus group discussion
HIV	Human immunodeficiency virus
IDI	In-depth interview
NECHR	National Ethics Committee for Health Research
NGO	Non-Governmental Organization
PWID	People who inject drugs
PWUD	People who inject drugs
TB	Tuberculosis
WHO	World Health Organization
UNAIDS	&nb

Declarations

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Availability of data and materials

Data used for this study can be accessed upon request from the Principal Investigator (Dr. Siyan Yi) at siyan@doctor.com.

Authors' contributions

SY, ST, SS, ST, KEK, SCC, and TEM designed the study and developed the study protocol and tools. ST, SS, SP, ST, and KEK were responsible for training and data collection. SY AKJT, SS, and PM analyzed data and wrote the manuscript. All authors contributed to the conceptualization of the research questions, interpretation of the results, and manuscript writing. All authors read and approved the final manuscript.

Ethics approval and consent to participate

The National Ethics Committee for Health Research (NECHR) of the Ministry of Health, Cambodia (No. 226 NECHR). A written informed consent was obtained from each participant.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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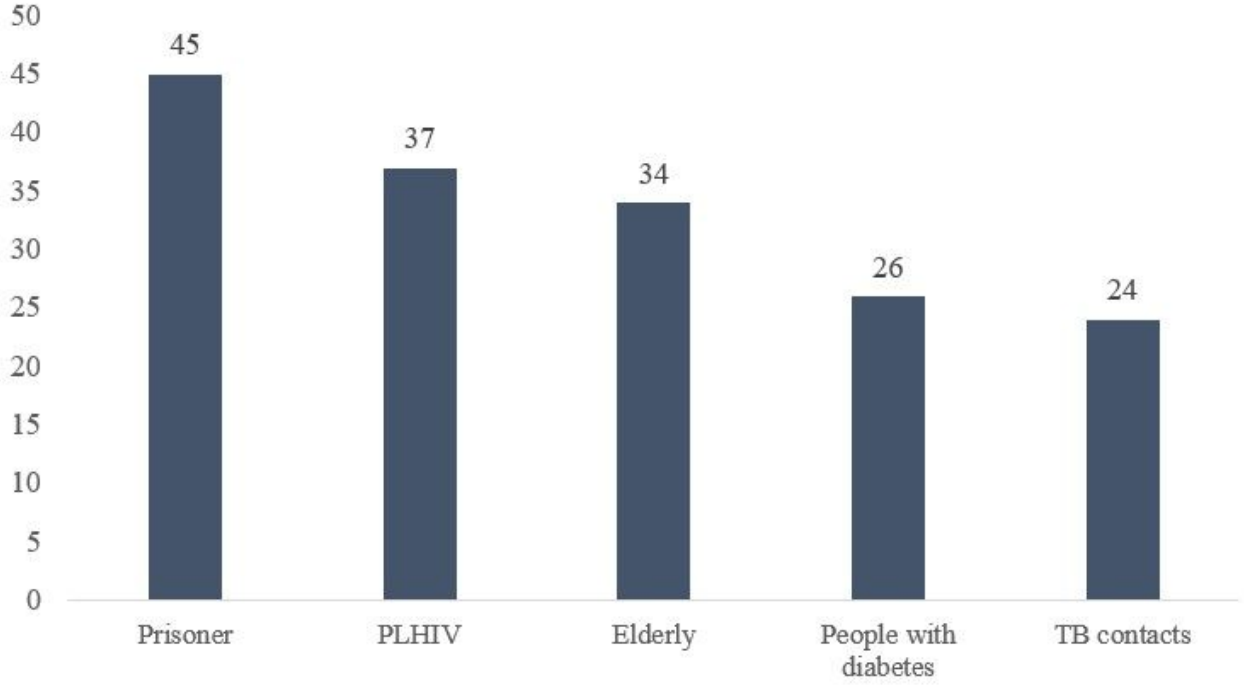
Figures



Abbreviations: PLHIV, people living with HIV; HIV, human immunodeficiency virus; TB, tuberculosis.

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Figure 1

Consensus from the consultative workshop on the top-five key populations to be prioritized

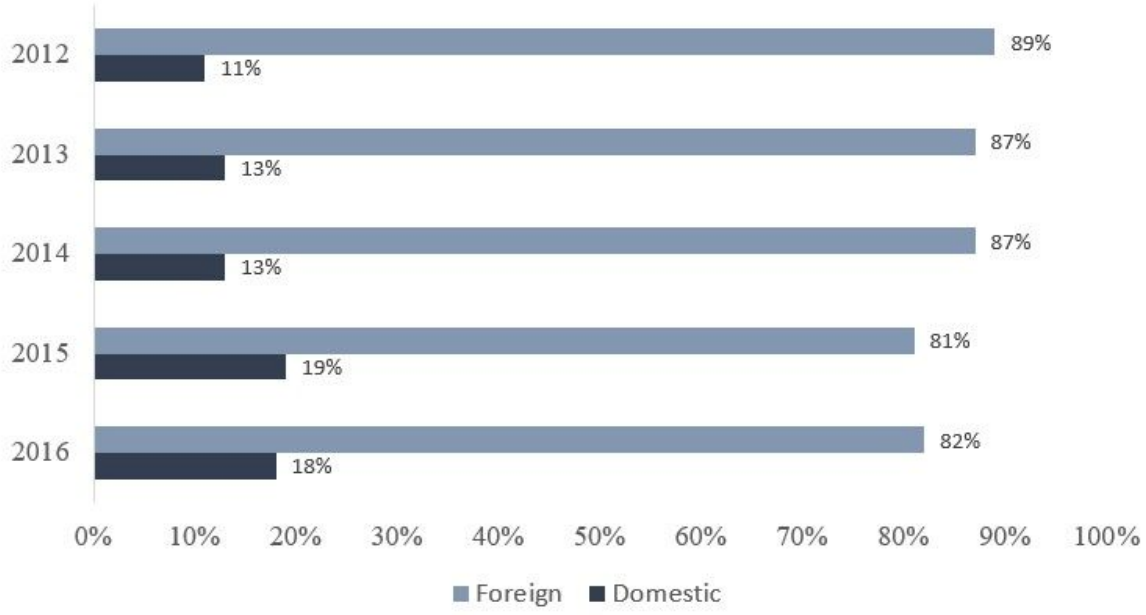

Figure 2

Proportion of domestic and foreign funding sources for the national TB response

Supplementary Files

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- Supplementarymaterial.docx