

# IMPLEMENTATION BRIEF:

## COMMUNITY-BASED INTERVENTIONS IN CAMBODIA, MOZAMBIQUE & MYANMAR

### PREAMBLE



This brief summarizes community-based approaches for TB case detection and treatment support implemented in Cambodia, Mozambique, and Myanmar under the USAID Challenge TB (CTB) project. The approaches build upon initiatives by the Global Fund, WHO, and Stop TB Partnership Strategic Initiative on finding the missing people with tuberculosis (TB), the U.S. Government Global TB Strategy and the National Action Plan for Combating MDR-TB, and others, and will contribute to the FIND.TREAT.ALL. joint initiative of the WHO, Stop TB Partnership, the Global Fund, countries and partners, to reach 40 million people with TB between 2018-2022.

### BACKGROUND



CTB **Cambodia**'s strategy aligns with the National Tuberculosis Program (NTP) and USAID's Country Development Cooperation Strategies by contributing to the reduction of the TB burden in Cambodia. During the last four years of implementation, CTB provided technical assistance (TA) to the NTP to develop innovative strategies for TB control with the primary goal of improving TB case detection and closing the "diagnosis gap" by targeting specific risk groups. To achieve this goal, CTB implemented effective contact investigation (CI) interventions which have contributed to an increase in TB case notification compared to routine TB services.

In **Mozambique**, CTB conducted activities in 68 districts in four provinces that together contained 56% of the national population and reported approximately 51% of national TB notifications in 2017.<sup>1,2</sup> Through sub-agreements with six local non-governmental organizations (NGOs) and one Provincial Health Directorate (DPS), CTB conducted community-based DOTS (CB-DOTS) interventions with the goal of intensifying case finding and improving laboratory and diagnosis quality, treatment outcomes, and recording and notification systems. CB-DOTS activities were implemented by a cadre of community health workers under the supervision of health facility (HF) and district level health care workers.

CTB **Myanmar** emphasized actively finding and effectively treating missing TB patients through a comprehensive TB prevention and care approach. CTB Myanmar's strategy directly supports the National

1. National Institute of Statistics. National Census 2017. Maputo: Ministry of Health 2017

2. National Tuberculosis Control Program. Annual Tuberculosis Report 2017. Maputo: Ministry of Health 2017

Strategic Plan (NSP) for TB. The community-based DOTS approach was used primarily to support efforts to reach the hard-to-reach, areas. CTB also supports strengthening access to high-quality TB diagnostics through sputum transportation system that primarily driven by community; strengthening the national multi-drug resistant (MDR) TB response in Yangon Region through community based contact investigation; and building NTP capacity through targeted TA for policy/tool development around key technical priorities.



Enhancement of CXR services can also help address the challenge of inaccuracy of childhood TB diagnosis. Both Myanmar and Cambodia have historically reported a much higher percentage of TB cases from children under 15 years of age than is expected. In 2014, prior to CTB, 26% of all reported TB cases in Myanmar occurred in children, while 26% of all TB was found in children in Cambodia.<sup>6</sup> Global experts expect that this should be closer to 10%. In Myanmar and Cambodia, it is highly likely that many children are over-diagnosed and treated for TB when in fact they have other illnesses with similar symptoms. Access to quality CXR services is essential to address this challenge.

## CONTEXT



The main challenge in all three countries is low treatment coverage (notifications/estimated incident TB), which was 66%, 52%, and 68% in Cambodia, Mozambique, and Myanmar respectively in 2017.<sup>3</sup> Cambodia has an estimated 52,000 incident TB patients.<sup>3</sup> Case notification rates are lower in areas with more poverty, likely due to numerous factors including poor access to diagnostic facilities, lack of funds to pay for diagnostic work-up, and inability of patients to afford days without work/pay during diagnostic evaluation.<sup>4</sup> Many patients, particularly children, have undetected TB, which increases their risk of transmitting the disease to others, poor health outcomes, and suffering distress and economic hardship.

Mozambique reported 86,515 cases of TB in 2017, but more than 78,000 cases of incident TB were estimated to have been missed.<sup>3</sup> The infrastructure and human resources for TB services at all levels are generally insufficient. These gaps are more pronounced in the

3. World Health Organization. Global tuberculosis report 2018. Geneva: World Health Organization; 2018

4. Lorent N et al. Challenges from Tuberculosis Diagnosis to Care in Community-Based Active Case Finding among the Urban Poor in Cambodia: A Mixed-Methods Study. PLoS One. 2015 Jul 29;10(7):e0130179. doi: 10.1371/journal.pone.0130179. eCollection 2015. Accessed July 24, 2019

rural areas, where approximately 68% of the population lives and where access to the public health system is limited, with some clients walking up to 40 km to reach the nearest HF.

With 30% of the estimated 191,000 TB cases undetected in 2017, finding missing TB cases is a high priority in Myanmar and a top area of investment for both GFATM and USAID.<sup>3</sup> Although specific burden estimates are not available for hard-to-reach areas, including remote and urban slums areas, there is likely to be a significant TB case notification gap. People living in these areas face multiple challenges to access TB care, including extreme poverty, poor understanding of the disease and its symptoms, poor infrastructure, and limited access to health centers. Other challenges include social and behavioral factors such as discrimination, TB-related stigma, self-medication, and seeking care from local traditional healers or health practitioners who are not trained in TB management.



## RATIONALE



**Cambodia:** The project had two main objectives in Cambodia: to promote early diagnosis and treatment for people with TB and preventive therapy among close contacts of infectious TB patients, and to increase access to quality TB service delivery at every level. Progress in reducing the burden of TB and mitigating its consequences can be expedited through early diagnosis and treatment. Recently, Cambodia adopted numerous case-finding approaches, including active case finding (ACF) and CI at the community level to systematically and actively search for people with TB. ACF and CI contribute to early identification and treatment of active TB, thus decreasing disease severity and reducing transmission to others. These approaches also identify those at risk for latent TB infection, allowing preventive measures to be taken. Even though CI is recognized as an important component of comprehensive TB activities in Cambodia, implementation has been limited with few organizations and health facilities performing thorough CI.



**Mozambique:** To support national efforts to find the missing people with TB due to poor access to quality TB diagnostic and treatment services, CTB Mozambique used a community-based approach to link communities to health facilities, including house-to-house outreach and monthly cough days. These activities involved:

- Supporting a specimen transportation system (STS) in selected sites to integrate TB specimen collection into the exiting routine laboratory sample collection system
- Conducting monthly cough days at the community level in collaboration with NTP, laboratory staff, activists, and community leaders;
- Conducting technical, programmatic, and financial monitoring field visits;
- Producing and distributing information, education, and communication (IEC) materials; and
- Rolling out an electronic community-TB module linked to DHIS2– to facilitate integration of community data with HF TB data.

**Myanmar:** To help close the case detection and treatment support gap, CTB supported several interventions to increase case finding at the community level including in remote regions of the country, through drug sellers in Bago Region and through accelerated CI for MDR-TB in Yangon. CTB supported testing, documenting, and scaling-up cost-effective approaches and models for TB screening, diagnosis, and treatment for hard-to-reach populations that can be adopted by the NTP and other service delivery partners, along with operational research to evaluate various approaches.

## DESCRIPTION

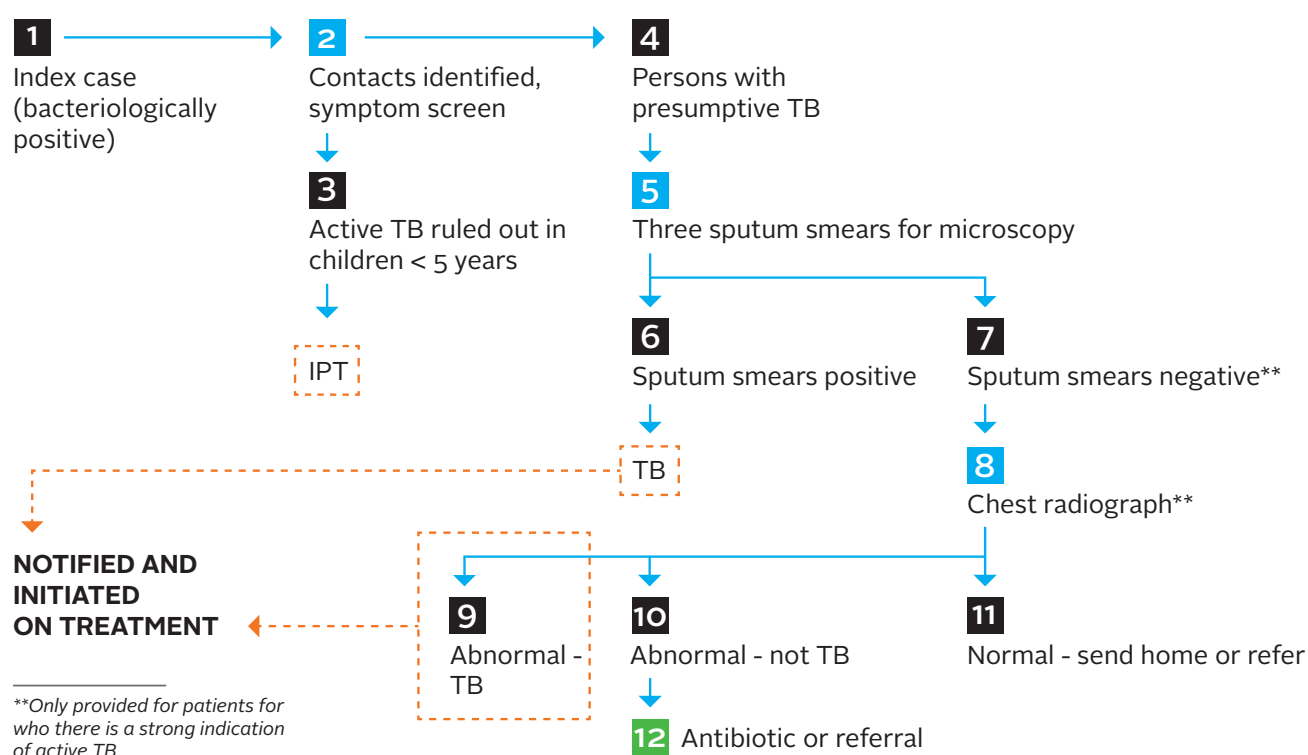


**Cambodia:** Prior to implementation, CTB and partners conducted field visits to assess HF implementation sites, to promote collaboration between HFs such as referral hospitals (RH) and health centers (HC), and to encourage community involvement. The field visits were conducted by staff from CTB, NTP, and the Provincial Health Department (PHD); Operational District (OD) TB supervisors; and technical partners. An orientation meeting was organized to provide the field visit teams with detail on the strategy/approach, goal, and objectives of the intervention. The orientation covered roles and responsibilities of each HF and community partner on CI, diagnosis, and childhood TB treatment. Participants included the field visit teams as well as representatives from RHs, HCs, and heads of communities. Additionally, three separate trainings on CI were conducted – one each for village health support groups (VHSGs), HC staff, and RH staff.

After the training, CTB and partners began implementing CI activities according to a defined protocol based on identified index TB cases. Staff from HC and VHSG conducted CI as part of a team led by government staff to ensure program sustainability. The steps included listing all smear positive TB patients and household and neighborhood close contacts, including children, on the CI form and visiting the

identified close contacts for symptom screening and sputum collection as indicated in the protocol. Under five child contacts who had negative symptom screen and brief physical examination by HC staff were immediately started on isoniazid preventive therapy (IPT) in the community and advised to follow-up at the HC in one month or earlier for any signs or symptoms of active TB, or for any adverse effects related to TB treatment IPT was recorded on both the IPT card and in the HC IPT register book. Contact management is outlined in Figure 1.

**Figure 1: Contact investigation flow chart, CTB Cambodia**



Provincial and OD TB supervisors conducted monitoring and supervision visits to HCs and communities every two months to monitor activity progress; the NTP conducted similar quarterly visits at the provincial, OD, and community levels.

**Mozambique:** To support national efforts to find missing people with TB in communities with poor access to quality TB diagnostic and treatment services, CTB Mozambique implemented a community-based approach in Nampula, Sofala Tete, and Zambézia provinces. The approach included house-to-house outreach and monthly cough days, linking communities to health facilities, and bringing together community DOTs supervisors, activists, local HF staff, and local leadership. These activities were carried out through collaboration between local-level CTB staff and local NGOs, through community health workers (CHWs) and TB activists who were responsible for identifying persons with presumptive TB, referring them for testing, contact tracing, and treatment follow up and support. CTB, in collaboration with district health services and local authorities, and through funded local NGOs, trained community volunteers and TB activists to conduct house-to-house outreaches in selected

communities from where most TB patients came from. The TB activists visited individual households and conducted TB screening to identify and refer presumptive TB patients to the nearest HF for further investigation, in collaboration with different service providers, including CHWs, health extension workers, and traditional healers. In districts where a specimen transportation system was operational, the team facilitated the transportation of samples for investigation and the receipt of results.

Monthly cough days were organized to provide educational sessions on TB and to conduct TB screening, sputum collection, referrals, and CI. Once per month, CTB partners worked with community leaders to deliver community sensitization sessions in pre-selected community locations. Sites were identified based on the number of cases diagnosed in that setting, distance to HFs, and opportunities to integrate with other community-health activities (i.e. mobile clinics). In addition to TB education and services, other primary health care services were also provided during monthly cough days, making it possible for communities to access integrated services within their community.



CTB designed a community health information module where all community activity data are entered in the national database through DHIS2, including monthly cough days. During cough days, the DOTS district supervisor collects and compiles data with support from CHWs. CTB enabled community-level data, including all CB-DOTS data, to be collected through DHIS2 to improve CTB project indicators and align HF data with NTP-reported data. Every month, CTB and implementing partners evaluated yield, identified gaps, and developed action plans.

**Myanmar:** CTB initiated the “Extending TB Services to Hard-to-Reach Areas” project to sustainably improve access to quality TB care and prevention services in hard-to-reach areas. These activities aligned with the NTP’s approach to provide community-based TB care. CTB supported community-based TB case finding approaches in 3,682 villages of 22 hard-to-reach townships. The project partnered with the Myanmar Health Assistant Association (MHAA) and the International Union Against TB and Lung Disease (The Union) in Sagaing Region, Pyi Gyi Khin in Chin State, and World Vision Myanmar in Kayah State. All implementing partners focused on case-finding and retention in care. While several components of these activities were standardized, certain key elements, such as models of community mobilization, varied to fit the unique needs of each community.

This case-finding and retention work aimed to build linkages with the NTP and local stakeholders, strengthen community mobilization for TB care and prevention, enhance case finding, support treatment success, ensure sustainable TB care, and contribute to operational research. CTB's work ensured that individuals presenting with TB symptoms received necessary diagnostic testing and treatment through the NTP. Presumptive and diagnosed TB patients received financial support for travel to township health centers; presumptive extra pulmonary tuberculosis (EPTB) patients received support for both travel and costs associated with EPTB diagnosis, which cannot be diagnosed at the township level. The project established community-based sputum collection centers, managed by volunteers, in remote areas where residents have difficulty accessing diagnostic facilities. Community volunteers collected sputum samples and facilitated transportation for diagnosis and follow-up investigation. This improved access to TB diagnosis for missing TB patients living in very remote villages.

In addition to case detection, volunteers supported efforts to improve treatment outcomes, facilitating sputum monitoring together with contact investigation, infection control, and adherence counseling. They also conducted loss-to-follow-up tracing, health education, and sputum transportation. During home visits, the volunteers trained contacts and TB patients on TB signs and symptoms to ensure early investigation, prompt diagnosis, and effective treatment among household members and other close contacts of TB patients. In addition, all household members and close contacts without a recent HIV test were referred for HIV testing, in collaboration with the National AIDS Program. Community volunteers ensured that all test results were communicated to patients in a timely manner through follow-up visits or phone calls to contacts and referred TB-positive contacts to health facilities for necessary treatment.

## RESULTS



**Cambodia:** CTB provided intensive on-site mentoring and coaching to improve the capacity of over 4,822 government health care providers, including VHSG members, to conduct CI within the targeted ODs. The project provided high-level TA to key staff including government counterparts at the provincial Health Department, OD, and HC, and local NGO partners. To institutionalize CI, CTB developed Standard Operating Procedures (SOPs) to both ensure quality within the project and to guide the national program going forward.

Between July 2015 and March 2018, 88,958 close contacts of smear positive patients were screened for TB, of whom 3,547 were found to have active TB and initiated treatment, including 2,031 children. In addition, 6,056 children under five commenced IPT for six months. Eighty-nine percent (89%) of all patients on IPT nationally came from CTB project areas. TB prevalence among close contacts was 3,361/100,000, which is 5.3 times the national prevalence in the general population, demonstrating the critical importance of CI within the national TB response.



**Mozambique:** In CTB-supported provinces, the contribution of CB-DOTS to national case notification increased from 12% in 2015 to 40% in 2018. House-to-house outreach had the greatest (78%) contribution to TB cases identified through CB-DOTS activities. Monthly cough days and systematic CI contributed to 15% and 7% respectively (Table 1).

**Table 1: Contribution of different approaches to CB-DOTS case finding in CTB-supported provinces (Nampula, Sofala, Tete, and Zambézia) from October 2017 to September 2018**

Approaches	Reached with TB messages	Screened for TB	Presumptive TB	Reached health facilities	Diagnosed TB, all forms (AF)	Number screened to detect 1 TB case	% contribution to total TB cases detected in CTB areas
House-to-house outreach	288,433	176,645	118,632	106,084	16,190	11	30%
Contact investigation	56,937	41,078	27,373	24,724	1,510	27	3%
Monthly cough days	55,892	28,183	19,846	18,467	3,173	9	6%
Other (e.g., referrals by church or family members)	24,723	19,746	2,970	2,532	9	2194	0%
<b>Total</b>	<b>425,985</b>	<b>265,652</b>	<b>168,821</b>	<b>151,807</b>	<b>20,882</b>	<b>13</b>	<b>39%</b>

(Total number of TB cases, all forms, registered in CTB-supported provinces = 53,278)

**Myanmar:** Between August 2017 and March 2019, CTB successfully supported the referral of 44,211 presumptive TB patients to health facilities, of whom 2,678 were diagnosed with TB and initiated TB treatment according to national guidelines. 716 of 2,678 notified patients (27%) were bacteriologically confirmed. Twenty-nine percent (29%) of the 2,678 patients were under 15 years of age. Sixty percent (60%) of TB patients found in hard-to-reach areas were men. Based on available data from NTP, between August 2017 to March 2019, CTB partners contributed 33% of all TB patients reported by NTP in hard-to-reach areas.

**Table 2: “Extending TB Services to Hard-To-Reach Areas” project: Contribution of partners to CB-DOTS case-finding in 22 CTB supported townships (in Sagaing, Kayah and Chin) in Myanmar from August 1, 2017 – March 31, 2019.**

Partner	Reached with TB messages	Screened for TB	Presumptive TB	Reached health facilities	Diagnosed TB, all forms (AF)	Number screened to detect 1 TB case	% contribution to total TB detected in CTB areas
MHAA	373,698	373,698	16,925	16,925	1,312	2185	16%
Pyi Gyi Khin	76,800	76,800	6,045	6,045	163	471	2%
World Vision	37,005	37,005	5,979	5,979	129	287	1.6%
The Union	831,310	831,310	17,712	17,224	1,074	774	13%
<b>Totals</b>	<b>1,318,813</b>	<b>1,318,813</b>	<b>46,661</b>	<b>44,211</b>	<b>2,678</b>	<b>492</b>	<b>33%</b>

(Total number of TB cases, all forms, registered in CTB-supported areas = 8,061)



In **Myanmar**, all but one township supported by CTB partners showed a significant increase in TB notifications after the start of the ACF intervention. Project evaluation findings indicated that CTB partners contributed to a 62.4 per 100,000 population increase in the annual TB notification rate. This was determined by comparing the average 12-month TB notification rate in CTB-supported townships for four years prior to the ACF intervention to the notification rate between October 2017 and September 2018. The treatment success rate of patients managed by CTB volunteers was 91.2%.

## LESSONS LEARNED



**Cambodia:** CI is an effective approach to identify TB patients that are missed by facility based, passive case detection and enhance access to treatment to further reduce TB transmission. This high yield approach works through existing government systems, helping to ensure sustainability. Assistance from VHSG members enhances HC staff case finding efforts and reduces barriers to testing and treatment for the poor and for key populations. The unique approach of providing IPT during the home visit with community start greatly increased IPT uptake, by bringing this important intervention to their “door-step”. This eliminated the extra burden placed on families to travel to HFs with healthy children for IPT initiation. The CI approach and community IPT start should be widely applied in the Cambodian health system help Cambodia move closer to TB elimination.

**Mozambique:** Prior sensitization and involvement of community leaders is important during TB intervention planning processes, as is coordination with district health departments during both planning and implementation. House-to-house outreaches have a high yield in selected communities. To maximize human and material resources, it is important to integrate monthly cough days with other community health activities, such as those addressing malaria, diarrhea, and vaccination. Collecting complete contact information, including phone numbers and addresses, of presumptive TB patients greatly facilitates referrals for diagnosis and subsequent follow-up.

**Myanmar:** Most project areas in Myanmar were townships that had not previously implemented community-based approaches for TB care. CTB partners had the opportunity to build enthusiasm, support, and active participation for a volunteer-driven community-based approach. Using a volunteer-driven approach for volunteer allocation and ensuring that an adequate number of volunteers were supporting each village led to increased TB case notification and allowed treatment support for every TB patient to improve treatment outcomes. Convening regular meetings to review the data, share experiences between volunteers and for field office team to provide capacity building to volunteers can motivate volunteers to ensure quality programming and good communication.

Additionally, having strong linkages and collaboration with government and local health staff promotes intervention success.

For example, conducting joint and synchronized case detection activities with the NTP mobile team enhanced ACF. Asking former TB patients to share their experience through health education talks is another effective way to raise community awareness about TB. Community-based sputum collection can be a sustainable practice. With technical support, self-help groups can also support a community-based health care system. Building capacity of basic health staff, especially front-line workers and those working within communicable disease programs, could increase the local ownership of these interventions. Local community involvement by both volunteers and communities needs to be strengthened through village/village tract health committees.



## CONCLUSION

Improving access to early TB detection, treatment, and prevention using community-based approaches is an essential component of the End TB strategy and contributes to efforts to find the missing people with TB. The approaches outlined here demonstrate strong collaboration with national and local government bodies, which facilitates local stewardship and accountability. The approaches are aligned with the End TB strategy principles of strong coalition with communities, interventions that are adapted at the country level for integrated patient-centered care and prevention (Pillar 1), bold policies and supportive systems (Pillar 2), and innovation (Pillar 3).

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