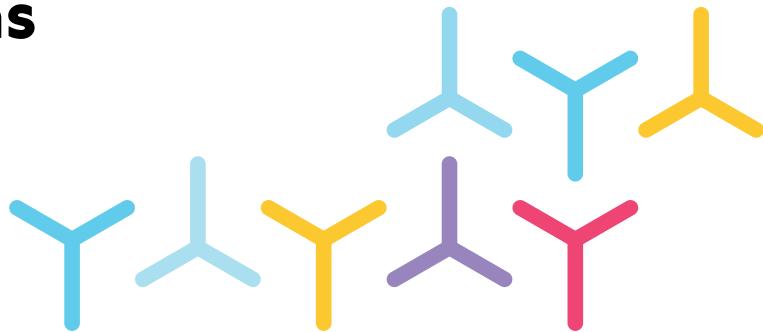


MYANMAR – Extending TB services to hard-to-reach areas

CASE STUDY



Implementation dates

August 2017–March 2019

Coverage

22 townships located in 1 state (out of 7) and 2 regions (out of 7) in Myanmar

Total number of people screened for TB

46 091

Contribution to TB notification

37.3% contribution to all TB notifications in the 22 townships

Implementers

- ◆ Family Health International 360
- ◆ Myanmar Health Assistant Association
- ◆ The International Union Against Tuberculosis and Lung Disease (The Union)
- ◆ Pyi Gyi Khin
- ◆ World Vision

1. Introduction

Despite tremendous progress made in tuberculosis (TB) control efforts in Myanmar over the past three decades, with TB prevalence declining from 894 cases per 100 000 people (1) in 1990 to 338 per 100 000 in 2018 (2), TB remains a major public health issue. Myanmar is one of the 30 countries with the highest burden of TB in the world. Its prevalence is twice the regional average and three times the global average (3). In 2018, an estimated 181 000 people fell ill with TB in Myanmar (2). Yet, according to the 2019 WHO global TB report, only 138 000 TB cases were notified, leaving 43 000 cases, i.e. nearly one quarter of all TB cases, undetected. Approximately 25 000 people (47 per 100 000) died from the disease in 2018, including 3500 people living with HIV.

To address these challenges in the TB response, between August 2017 and March 2019, the Challenge Tuberculosis (CTB) project, funded by the United States Agency for International Development, led by KNCV Tuberculosis

Foundation and implemented by Family Health International 360 (FHI 360), supported the Myanmar National Tuberculosis Program (NTP) to actively find people with TB and treat them effectively, in line with the WHO End TB Strategy.

2. Description of the problem

With one third (32%) of all TB cases remaining undetected in Myanmar in 2017 (4), community-based active case-finding activities to find missing TB cases were a clear priority for the country. Active case management was also necessary to improve treatment adherence and achieve better individual and community health outcomes. The Challenge TB intervention was designed to cover approximately 2.3 million people and aimed to identify additional TB cases that would not have been identified by existing services alone.

The 22 townships where the intervention was implemented were selected because of their low TB case notification rates (1) and were located in Chin State (three townships), in Sagaing Region (16 townships) and in Kayah State (three townships), all hard-to-reach mountainous areas with poor transportation infrastructure and limited health services. They are among the poorest and least developed areas of the country. Community members have little or no awareness of the disease, inadequate health-seeking behaviour and very limited access to health services. As a result, most TB cases have remained hidden, undiagnosed and untreated, leading to the ongoing spread of TB in these communities. The challenges are compounded by stigma and discrimination against people with TB, making infection control difficult at community level. When people develop symptoms, they are unlikely to visit distant health centres and instead turn to self-medication and traditional healers or practitioners. Even when their condition worsens, poverty, lack of awareness and lack of transportation options restrict access to basic health services. For those who are diagnosed and start treatment, regular trips to the health centre are required to pick up medications, leading to poor treatment adherence and high rates of loss to follow-up. This case study highlights specific community-based activities designed to respond to these challenges, although it does not cover the full extent of the activities conducted.

3. Proposed solutions

The lack of access to services and information about TB was one of the main challenges. It was essential, therefore, to develop community-based strategies enabling the delivery of essential TB services closer to the people affected by the disease and directly in the local communities of the selected townships. Community-based approaches were crucial in reducing the burden on people with presumptive TB and increasing diagnosis and treatment service uptake and adherence by community members, particularly in areas where no rural health centres were available. Four CTB implementing partners, the Myanmar Health Assistant Association (MHAA), The International Union Against Tuberculosis and Lung Disease (The Union), Pyi Gyi Khin and World Vision, engaged a total of 2135 community health volunteers (CHVs) to provide community-based TB prevention, diagnosis, treatment and care in close collaboration with the Government's basic health staff. The volunteers carried out TB screening activities, sputum sample collection and transportation and community-based case management within local communities.

Each CTB partner decided on its own approach to volunteer selection and management. Of the various models that were tested, the most effective was found to be the "one-village-one-volunteer" model (5). The selected CHVs lived in the villages where they worked, increasing community acceptance of their activities and enabling them to build knowledge and understanding of the needs of their fellow community members. The initial two-day training and refresher training courses were standardized across all four partners to ensure that quality standards were met. The

training curriculum was based on the TB CHV guidelines developed by the NTP. Training was provided by FHI 360 in collaboration with the local NTP and the township health department. Knowledge-sharing and case discussions were organized with CHVs on a regular basis to share challenges and identify ways to overcome them. CHVs supervision was conducted on a quarterly basis by implementing partners, in collaboration with the Government's basic health staff, such as health assistants or public health supervisors in rural areas. Trained CHVs undertook a number of activities, which are described below.

Volunteer-run sputum collection centres

This model aimed to increase access to screening by bringing the service to the community, thereby alleviating the travel burden for persons with presumptive TB. Various models of sputum collection centre were tested in different contexts. Where possible, they were set up in rural health centres and managed by Government health assistants. Where there were no rural health centres, sputum collection centres were established in the CHVs' homes. A total of 113 centres were set up in areas of high TB prevalence and among hard-to-reach populations. Sputum was collected twice a week, or at regular agreed intervals. The samples were then transported, in batches where possible, to the closest health facility where sputum microscopy was available. Standard operating procedures were created for setting up and running the centres.



A volunteer delivering a coolbox of sputum samples to a township health facility in Sagaing Region, Myanmar
(Photo: MHAA)

Community education sessions

Community education sessions were strategic events where community members were convened in a public place. CHVs would then provide information about TB, its symptoms, modes of transmission and infection control measures. It was also an opportunity to talk about other community health issues such as malaria, maternal and child health, immunization and dengue. Particular emphasis was placed on explaining that TB diagnosis and treatment services were free. The sessions enabled community members to understand TB better, accept the CHVs' activities and identify presumptive TB cases. When required, CHVs visited households with members

displaying TB symptoms and shared health education information to prevent further infection, supplying face-masks and explaining the importance of using the masks, sleeping away from others and opening windows to maximize air flow through the living space.

Contact investigation

CHVs played an essential part in investigating family members living in close contact with people with TB, i.e. systematically identifying TB patients' close contacts and visiting their households to deliver TB prevention messages and screen for presumptive TB in the family. The intervention provided financial support to cover transport costs for those with TB symptoms to visit health centres for diagnosis and, if TB was confirmed, treatment.



Health education session in Sagaing Region
(Photo: The Union)

Active case management

CHVs supported the NTP by providing treatment support for persons with TB, visiting their houses to ensure daily treatment adherence and tracing persons who did not attend their medical appointments.

Thiri is the mother of two children who were screened, diagnosed and placed on treatment thanks to the advice and support of the community health volunteer in her village, Daw Tin Htay. "*In my village, people didn't know much about TB [...]*", she explains. "*Luckily, the Challenge TB team has educated people about the disease and attitudes are beginning to change. Now I know about TB and am grateful to Daw Tin Htay who saved my children's lives.*"

Throughout the intervention, partners collaborated closely with national Government health staff (public health supervisors and health assistants) to carry out training and supervise volunteers, strengthening their monitoring skills and their ability to deliver more sustainable health services. Basic health staff took part in case-finding and case management, working together with CHVs.

4. Outcomes

The final evaluation concluded that the intervention was largely successful and resulted in substantial increases in the numbers of people identified with TB and treated. The only exception was the three townships in Chin State, where the case notification rate was already high, but decreased during the implementation, from 70 cases per 100 000 people to 60 per 100 000 (4). Chin State is a mountainous area where accessibility issues are particularly challenging. Staff turnover was high, both at NTP and within the implementing partner, partly because the area is very remote. Diagnostic services were not available every day, and only at certain times, leading to delays in diagnosis. Moreover, transportation costs were higher than in other areas, meaning that persons with presumptive TB were less likely to attend multiple appointments, despite the financial support provided through the intervention.

Key results

During 19 months of active case-finding implementation, CHVs identified 2678 TB cases across the 22 townships. This represents 6% of the 46 091 persons with presumptive TB tested for TB. In addition, 26 multidrug-resistant TB cases were diagnosed. The average total cost per additional TB case notified was US\$ 1186.

CTB case-finding activities conducted by CHVs contributed 37% of all NTP case notifications in the 22 targeted townships.

The case notification rate increased significantly during implementation in nearly all selected townships, compared with the four years prior to implementation. For example, an evaluation of 12 months of the programme showed that, in eight townships of the Sagaing Region, the case notification rate increased from 48 cases per 100 000 people pre-intervention, to 69 cases/100 000 people during CTB implementation (4).

CHVs reached a total of 1.2 million community members with TB health education.

An evaluation of 12 months of the programme showed that the performance of CHVs varied greatly: the majority of presumptive referrals and TB cases notified originated from a minority of CHVs. While most CHVs (79%) referred at least one community member for TB testing, fewer than half (44%) referred someone diagnosed with TB.

The volunteers running the 113 sputum collection centres served 12 807 people with presumptive TB, transported 25 614 samples for diagnosis (two samples per person) and helped to identify 194 bacteriologically confirmed TB patients, which represents 27% of all TB notifications from the 22 CTB-supported townships.

Close collaboration with NTP, township authorities and communities ensured that TB-trained volunteers could, to some extent, be retained by the NTP to enable continued TB support activities beyond the life of the intervention, through follow-on projects in multidisease support systems.

The positive outcomes achieved by this CTB intervention have prompted other development partners, including the Global Fund to Fight AIDS, Tuberculosis and Malaria and Access To Health along with local community-based partners, to step up and ensure the continuation of essential TB community-based approaches in remote areas.



Treatment support session in Sagaing Region
(Photo: The Union)

5. Lessons learned and challenges

Building on existing community networks

The use of existing volunteer networks was key to capitalizing on existing experience and recruiting motivated volunteers. CHVs with prior volunteer experience were found to be particularly motivated and improved the existing good relationships with basic health staff. In addition to previous experience, variables that were associated with greater volunteer performance, and linked to higher referral numbers, were the following: age 30 years old and above, higher levels of education (high school and above) and greater length of time working as a CHV. The final evaluation of the intervention noted that it is worth focusing on supporting well-performing volunteers residing in higher-prevalence areas. Similarly, building on the existing community workforce (village health committees, self-help groups, civil society and community-based organizations, etc.) rather than creating new ones ensured better community ownership and increased sustainability.

Involving TB survivors and encouraging them to share their experience during health education sessions helped engage community members to learn about TB and the role they can play in identifying presumptive cases in their family and community.

Collaboration with the health sector

Collaboration with the NTP and local health stakeholders and regular coordination meetings between CHVs, basic health staff and township health teams contributed to establishing strong linkages with the local health system and was essential for the success of the intervention.

Joint supervisions

Joint monitoring, supervision, review and coordination visits with basic health staff were key to overcoming initial resistance from local health teams and helped to integrate CHV work with the work of the township health staff.

Selection of implementation sites

Careful selection of implementation sites, on the basis of TB epidemiological data, is important for increasing cost-effectiveness: community-based case-finding interventions, including sputum collection centres, should be located in areas with greater TB prevalence or incidence. A cost-effectiveness analysis of sputum collection centres highlighted the importance of setting up sputum collection centres in areas where it is expected that a large volume of samples will be collected (4).

Incentives

Providing travel allowances for volunteers and people with symptoms of TB increased diagnosis and treatment uptake, since those with symptoms often would not otherwise travel to hospitals. Some areas were particularly remote or inaccessible during the rainy season, and the transport allowance was found to be inadequate to cover the actual expenses, especially in Chin State. Tailored allowances, based on travel distance, effort required and mode of transport, led to more effective engagement with those undergoing treatment.

Township health teams were quickly overwhelmed and struggled to manage the extra workload generated by the sharp increase in TB presumptive case referrals by CHVs. The implementers found that incentives aimed at motivating health teams to increase productivity or recruit additional staff were useful in order to mitigate the imbalance between workload and available personnel.

Sputum samples

Community members often had difficulty producing sputum samples. A short video in the local language was produced to teach people how to produce high-quality samples. Although the CTB team felt that the quality of sputum samples sent for testing improved overall, the issue of poor sample quality continued to be a problem in some places, which may have resulted in missed diagnoses.

Language barriers

Language barriers existed in some areas. All information, education and communication materials should be translated into local languages.

6. Conclusions

While the initiative contributed to a significant increase in TB notifications and demonstrated the importance of capitalizing on existing community networks and building strong collaboration and coordination with the NTP and other local stakeholders, it also highlighted the substantial time and effort that are required to achieve sustainability and behaviour change at community level. Therefore, to achieve a greater and more long-lasting impact, it should be recommended to move beyond timebound project models and plan for long-term integration of community-based TB interventions into the local health services.

- 1 National Strategic Plan for Tuberculosis 2016-2020. Nay Pyi Taw: National Tuberculosis Program; 2019 (https://www.myanmarhsc.org/wp-content/uploads/2019/09/National-Strategic-Plan_Full-Version-l-1.pdf, accessed 5 July 2020).
- 2 Global tuberculosis report 2019. Geneva: World Health Organization; 2019 (https://www.who.int/tb/publications/global_report/en/, accessed 18 June 2020).
- 3 <https://www.pih.org/endtb/myanmar.html>
- 4 Global tuberculosis report 2018. Geneva: World Health Organization; 2018 (<https://apps.who.int/iris/bitstream/handle/10665/274453/9789241565646-eng.pdf>, accessed 18 June 2020).
- 5 United States Agency for International Development, FHI 360 and Challenge TB. Challenge TB Myanmar: extending TB services to hard-to-reach areas project: final evaluation report. Washington (DC): United States Agency for International Development; 2019.