ISSN: 2754-4761

Journal of Pulmonology Research & Reports

SCIENTIFIC Research and Community

Research Article

Open Access

TB Active Case Finding in Communities: Lessons from an Integrated Community Engagement Approach

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SUMMARY

Background and Challenges to Implementation: The annual incidence of TB in Malawi in 2021 is estimated at 132 per 100,000. Low awareness about TB and its associated risk in the community contributes to low healthcare-seeking behaviour and TB detection gaps. DAPP Malawi is implementing the USAID supported "Mobilizing Local Entities to Improve the Quality, Scale and Sustainability of the TB Response in Malawi," (Project QSS) which engages a range of community stakeholders to increase TB awareness and supports active TB case finding.

Intervention: DAPP Malawi employs an integrated approach to engage communities in active case finding. Through Project QSS, DAPP Malawi built the capacity of Community Health Workers (CHW), Community Health Volunteers (CHVs), Community-Based Organizations (CBOs), local and religious leaders, and youth clubs to perform different but complementary roles in TB messaging and stigma and discrimination reduction, . DAPP CHWs mentor community stakeholders on TB messaging, systematic screening, sample collection, psychosocial counselling, stigma reduction and contact tracing. Volunteers who manage Community Sputum Collection Points (CSPCs) conduct systematic TB screening, sputum sample collection and transportation, referrals, and contact tracing. CBOs, youth clubs, mother groups, and local and religious leaders complement CHW and CHV efforts by disseminating TB messages and referring people to either CSPCs or the nearest health facility. Local and religious leaders act as influencers to offset misinformation and promote community TB screening services.

Results/Impact: Between January and December 2022, 320,694 people were reached in the communities served by CSCPs volunteers and 52.9% (169,771) were screened for TB; 7.4% (12,557) had symptoms presumptive and; 1.9% (233) were diagnosed with TB and notified compared to only 36 TB cases in 2021.

Conclusions: The integrated and coordinated community-based approach with strong links to local health facilities increased TB awareness, facilitated active case finding and increased case detection by over 6-fold in 2022 compared to 2021.

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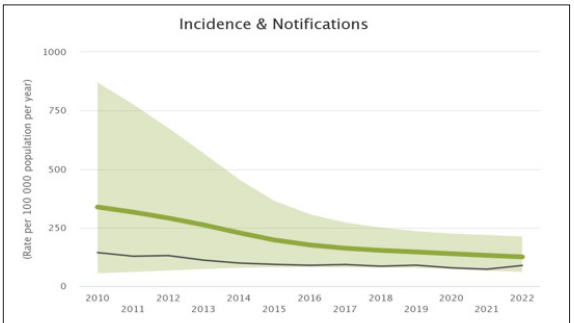
Received: December 31, 2023; **Accepted:** January 05, 2024, **Published:** January 12, 2024

Introduction

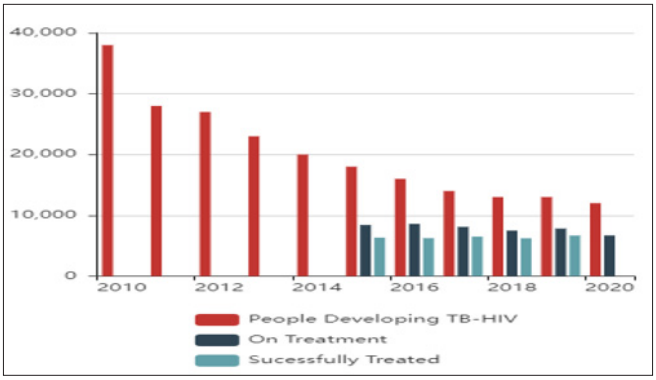
Tuberculosis (TB) is the main cause of mortality from infectious disease, killing 4,000 people every day [1]. A total of 1.5 million people died from TB in 2020 including 214 000 people co-infected with HIV. Globally, an estimated 10 million people fell ill with TB of which 1.1 million were children. In same year, **2020**, incidence of tuberculosis for Malawi was **141 cases per 100,000** people [2]. Incidence of tuberculosis of Malawi fell gradually from 395 cases per 100,000 people in 2001 to 141 cases per 100,000 people in 2020. **Malawi** notified a total number of **15,133 TB cases** with treatment success rate (TSR) of **87%** and **about 2,600 deaths** [3].



Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Incidence	228	197	176	162	153	146	138	132	125
% year to year decline		-14%	-11%	-8%	-6%	-5%	-5%	-4%	-4%

The annual incidence of TB in Malawi in 2021 and 2022 is estimated to be 132 and 125 per 100,000 respectively indicating a significant decline of 4% per year. Although significant progress has been made in recent years, efforts must be intensified and scaled to meet UN High Level Meeting (UNHLM) and National Tuberculosis Program (NTP) targets, particularly due to losses in case finding. Low awareness about TB and its associated risk in the community contributes to low healthcare-seeking behavior and TB detection gaps.

45% of TB clients in Malawi are HIV positive, compared to 10.8% in the general population; contributing to a high death rate among TB/HIV co- infected clients of 12% (8% for all TB cases). Although recommended, TB Preventive Therapy (TPT) for PLHIV is not being fully implemented. Although 99% of PLHIV are screened for TB, less than 1% are identified as presumptive TB cases. Low TB registration sites in comparison to ART sites (47%) further limits implementation of TB/HIV collaborative measures.



In June 2021, USAID awarded a 3-year grant to DAPP Malawi to implement the TB Local Organization Network-2 project (TB LON-2) *Mobilizing Local Entities to Improve the Quality, Scale and Sustainability of the TB Response in Malawi activity Project* QSS in partnership with KNCV and Facilitators of Community Transformation (FACT). The project will run from June 2021 to June 2024.

TB LON 2 Project falls under the USAID LON Program Strategy; Improved access to high- quality, patient-centered TB, DR-TB and TB/HIV services. It is implemented in the three high burden districts of Mulanje, Machinga and Mangochi in Southern Malawi in 21 facilities and their catchment areas.

Key interventions in TB LON 2 among others include integrated activities of ACF, improving diagnostic capacity and quality, and supporting treatment adherence with a particular focus on pediatric TB and TB/HIV co-infection management. Additional cases are detected through implementation of facility- based cough surveillance, community-based contact investigation and systematic screening of micro-epidemic sites and hot spots.

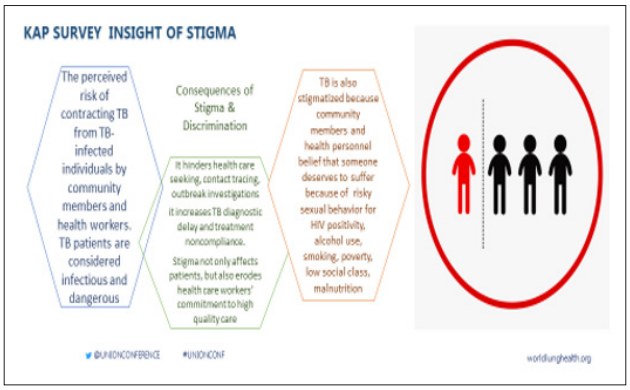
As of 29th September 2021, Malawi had recorded **61,552 cases** including 2,281 deaths (Case Fatality Rate is at 3.71%). Of these cases, **2,637** were imported infections and **58,916** were locally transmitted.

At the initial phase of TB LON 2 Project, the baseline survey informed on TB epidemiological situation, TB programmatic performance and KAP survey insights in the three targeted districts of Mulanje, Machinga and Mangochi.

Among the critical problems in TB control in Malawi that were identified during the TB LON-2 co-creation process and implementation in 2021 were the persisting barriers to TB case finding outside of health facilities as follows:

- Knowledge gap among both the general public and symptomatic TB clients about TB symptoms, diagnosis, prevention and treatment
- Suboptimal standard of screening by volunteers which resulted in low case yield
- Referred presumptive cases were not presenting themselves at the facilities for diagnosis.
- Low yield of cases among registered contacts
- Lack of motivation for community volunteers to conduct TB screening.
- Poor collected sputum sample quality
- Transport limitations and insufficient sputum container carrier boxes
- Persistence of myths surrounding TB and the roles of CSCPs resulting to communities not following TB and related messages being disseminated by Volunteers
- Some knowledge gaps among volunteers in data collection, reporting and general documentation
- Non availability of diagnostic tools at most facilities for example X-ray machine

It was also noted that barriers to treatment seeking exist for men and women, including disadvantageous socio-economic conditions for women and unsupportive conceptions of masculinity for men. For all, lack of understanding that TB is preventable and curable, combined with stigma, result in reduced demand for TB services. As a result, there's a high mortality rate, particularly in secondary and tertiary hospitals, attributed to late presentation of people with TB disease.



The ongoing monitoring and assessment allowed DAPP, the NTLEP and USAID to identify integrated TB active case finding interventions and to support achieving expected targets.

The NTLEP and the global TB community share a vision of a world, and country, free of TB. To achieve this vision and end all TB deaths in Malawi, the NTLEP work with stakeholders to ensure effective, equitable, and accessible TB prevention, diagnosis, treatment, and care services. In the National Strategic Plan (NSP) for TB 2021-2025, the NTP has set the following goals: Reduce TB incidence by 50 percent, and TB mortality by 75 percent by the end of 2025 compared to 2015 levels.

- By end 2025, reduce TB incidence to 97/100,000.
- By the end of 2025, reduce TB related mortality of all TB patients to 18/100,000.
- Zero catastrophic costs due to TB among affected families (Reducing TB care costs to less than 20% of annual household income)

In order to promote access to TB services in the community TB LON 2 Project Malawi employs integrated approaches to engage communities in multilevel coordinated interventions for *Active Case Finding* and Increasing Demand for TB services in the communities.

This article therefore outlines the methodology and approaches used to increase TB service demand and access.

Methodology

TB LON 2 employs an integrated approach to engage communities in active case finding in line with the national health sector strategic plan for 2023-2030 (HSSP III). In collaboration with the ministry of health through national tuberculosis and leprosy elimination programme (NTLEP), DAPP Malawi Engaged 105 CSCPs in collection, handling and transporting sputum. The project identified and trained a total of 1050 Community Volunteers to support TB messaging, house to house TB screening and sample collection.

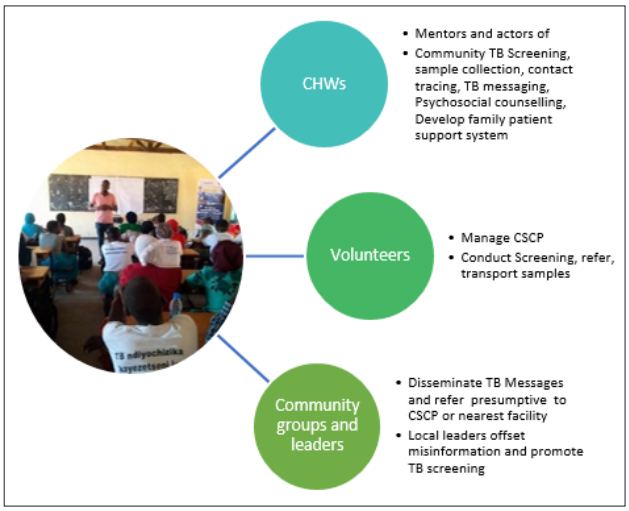
The collected sample is transported using a pushbike to the nearest health facility for microscopy, geneXpert or truenart testing. The results are sent back to the CSCP for communication to the respective presumptive cases and documentation into the presumptive register. The community volunteers are also provided with sputum collection boxes, personal protective equipment and enablers like T-Shirts, backpacks, gumboots, hardcovers, umbrellas and push bicycles. There are review meetings every three months to monitor and evaluate progress at facility level.

DAPP Malawi recruited, Community Health Workers, DAPP who act as the focal persons at each intervention health facility, conduct supportive mentorship visits to the 105 CSCPs at least once a month. The CHWs conduct contact investigation at households for all pulmonary TB cases and links under-five children to facilities for proper screening and TPT.CHWs also focus on assessing how CVs are performing on TB messaging; systematic screening; sample collection and documentation. Then mentor and support them where there is a need.

DAPP Malawi also conduct targeted active case finding among key populations like people working in mines, health care workers and those in prisons within the three intervention districts through outreach approach including the use of Mobile Diagnostic Unit (MDU) vehicles.

Apart from engaging community volunteers, TB LON 2 also trained and engage 21 representatives from youth clubs, mother groups, local and religious leaders to offer TB awareness and stigma and discrimination reduction messaging in their groups, during community meetings and other community gatherings like church etc.

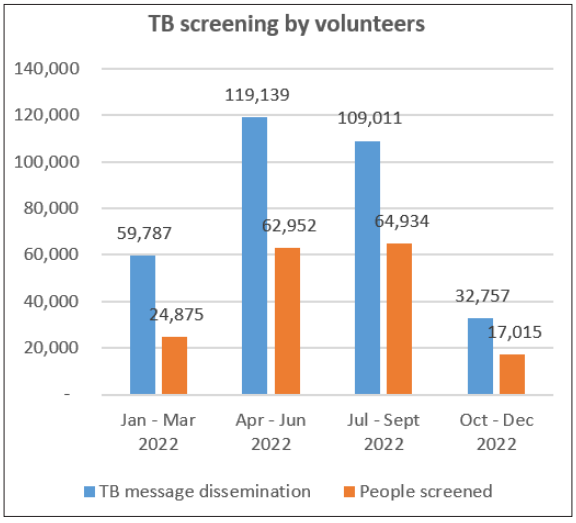
The project further collaborates with other implementing partners like Community Based Organizations (CBOs), Baylor, MACRO, Partners in Hope (PIH) in reaching out to Teen Clubs, Youth Clubs and mother groups. The project also engages religious, political, traditional leaders and herbalists in reaching out to the communities around identified health facilities. This enhances reduced stigma and increased TB/HIV awareness with increased service demand.

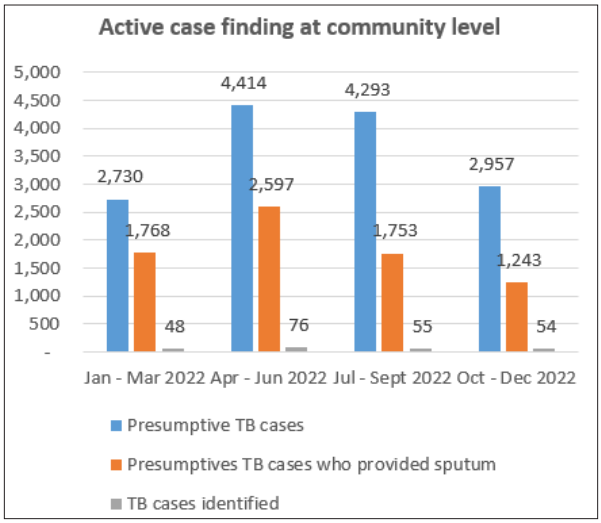


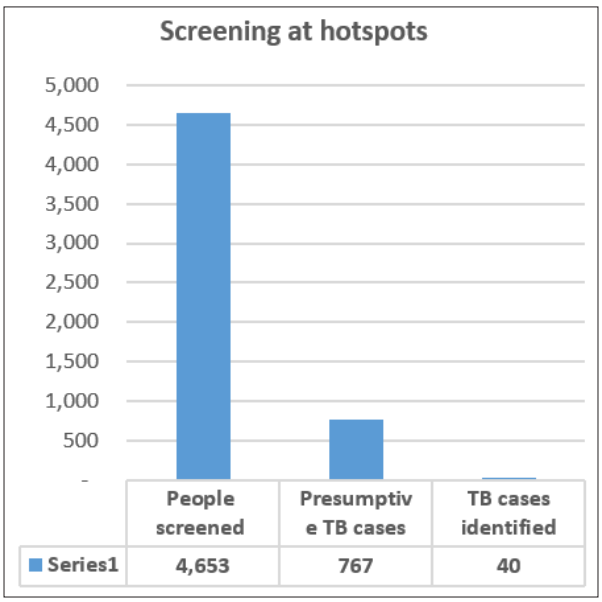
Results

Community volunteers in their sputum collection points managed to disseminate TB messages to 320,694 people of which 169,771 were screened in the 3 districts of Mangochi, Machinga and Mulanje. A total of 233 TB cases were identified from January to December 2022. This is a remarkable rise from 31 TB cases identified in the previous year of 2021 when the project had not started its activities.

Data indicate that the more the messages were provided, the more screening was done and correlates with increased numbers of presumptive and TB cases as shown in the graphs below.







The project in coordination with NTLEP and DHOs also identify micro-epidemic zones and use the Mobile Diagnostic Unit (MDU) which is equipped with GeneXpert and digital x-ray machines. Screening using MDU is done at hotspots such as bus depots, prisons, mining sites and communities where the volunteers do the mobilization (referrals of presumptive who did not go to the health facility and those still having signs of TB despite negative results).

Through the use of MDU 4,653 people were screened in 2022 of which 16% (767) were presumed to have TB. 40 TB cases were identified from these approaches which represented 5% from the presumptive cases.

The project is yielding TB cases using integrated approached highlighted above. Community volunteers are at the heart of mobilization activities. The project also benefits from National TB and Leprosy Elimination Program and DHOs technical support in identification of hotspots as well as the MDU which is under program's discretion [4-9].

Conclusion

Acknowledgements

We thank Moses Chibwana- DAPP Country Director, Lisbeth Thomsen- DAPP National Partnership Director, Ernest Likupe- DAPP Program Manager and Ganizani Likupe- DAPP Grants Administrator and project advisor for granting us an approval to develop the abstract and article.

We thank Malawi NTLEP for the good coordinationation with the consortium of TB LON 2 partners including DAPP, KNCV and FACT

We also thank the UNION Lung Health Team for giving TB LON 2 an opportunity to present the abstract at the recently conducted 2023 World Conference on Lung health in France, Paris where a lot of opportunities are unfolding including the publication of the article.

Furthermore, we thank the Journal of Pulmonology Research & Reports team for recognizing the abstract presented by Mtisunge Nkhono Phiri at the World Lung Conference, 2023 for article publication

Lastly and foremost, we thank USAID for the financial and technical support towards TB LON 2.

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