Community relays gather for training on TB. Photo credit: Popol Burume

Improving Early Tuberculosis Detection in the Democratic Republic of Congo

Technical Brief | November 2023 | Democratic Republic of Congo

Strengthening the capacity of community health workers in Ituri province to improve TB screening and referral

Background

Tuberculosis (TB) is a serious health threat worldwide and remains a major public health challenge in the Democratic Republic of Congo (DRC). DRC is ranked 8th among the 30 most TB-affected countries in the world, 2nd in Africa behind Nigeria, and 8th among countries with a high load of TB/HIV co-infection.[1] It is also among the 13 countries worldwide facing the simultaneous challenges of drug-susceptible TB, TB/HIV co-infection, and drug-resistant TB.[2] According to the World Health Organization (WHO), 1.6% of new TB cases and 20% of previously treated cases in DRC are drug resistant.[3]

In October 2020, the US Agency for International Development (USAID) Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program (2018–2025) began supporting DRC's National TB Program (PNLT) under the Ministry of Health in strengthening community engagement for improved TB outcomes.

[1] World Health Organization (2023). Global Tuberculosis Report 2023. Available at: https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2023

[2] World Health Organization (2022). Global Tuberculosis Report 2022. Available at: https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022

[3] WHO Country Data: DRC, 2022. Available at: https://worldhealthorg.shinyapps.io/tb_profiles/?_inputs_&entity_type=%22country%22&lan=%22EN%22&iso2=%22CD%22

Problem Statement/Challenge

Continued unrest in DRC's northwestern Ituri province and the resulting large numbers of internally displaced populations (IDPs) have led to an increase in the number of TB patients lost to follow-up, a decrease in adherence to treatment, and the displacement and low engagement of community health workers.[4] In 2020, Ituri reported 10,807 TB cases (all forms).[5] From the PNLT's estimate of 19,055 cases in Ituri, 8,248 (43%) were missing, meaning that notified cases accounted for only 57% of the estimated TB incident cases.[6] Missing cases included 1,286 pediatric cases (11.6% of missing cases).[7] Nine of the PNLT's estimated 72 cases (12.5%) of drug-resistant TB were detected.[8] However, the treatment success rate decreased from 87% (5,812 of 6,893 patients treated in 2019) to 84.5% (6,823 of 7,823 patients treated in 2020) due to the increase in the number of patients lost to follow-up.[9]

Nizi and Bunia health zones in Ituri (figure 1), which were selected for the community-based case finding intervention (implemented by MTaPS), are home to large numbers of IDPs. Nizi also has a large mining population. Those factors put Nizi and Bunia at high risk for TB. Nizi health zone has a TB case notification rate of 555 cases per 100,000, while Bunia has a rate of 425 cases per 100,000.[10]

Between 2019 and 2021, the two health zones recorded the lowest TB case notification rates (reported cases as a proportion of estimated TB incident cases) in the province and had relatively high rates of loss to follow up.[11] As a result, Nizi and Bunia are likely home to many people with active TB who are not on treatment and may be spreading the disease to other community members.

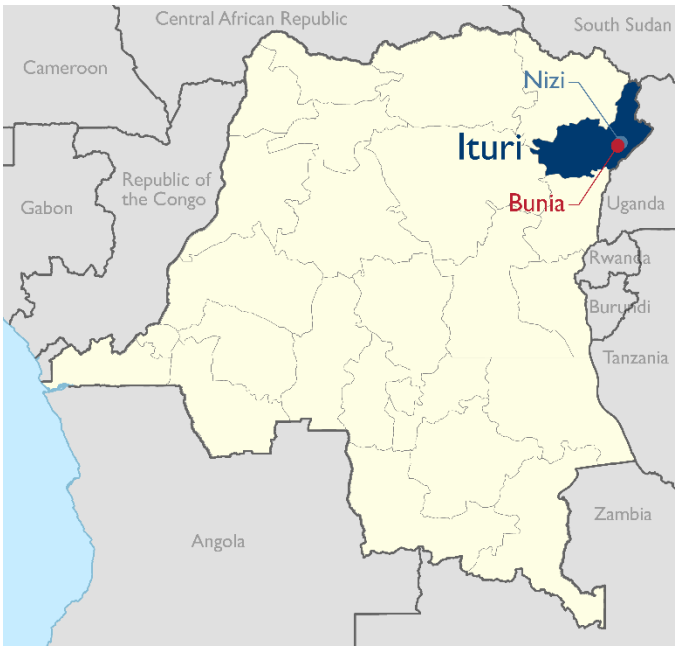

Figure 1. Map of DRC with Ituri, Nizi, and Bunia marked

DRC's network of volunteer community health workers, called relays (also known as RECOs), are members of the community, elected or appointed by the population, who carry out tasks related to health in the community. Relays are well-positioned to engage with their communities on health issues. The relays are trained by health zone management teams and carry out activities under the supervision of the chief nurse of the health center. Under the guidance of chief nurses, they provide health support and nonclinical health services to individuals and families on topics such as malaria, pneumonia, breastfeeding, and HIV/AIDS and help community members in need access other forms of support, including food assistance, housing, and social services. As leaders in their communities, relays carry out activities related to treatment, education,

[4] Al Jazeera (2023). Rebel attacks deepen displacement crisis in DRC's Ituri province. Available at: https://www.aljazeera.com/news/2023/4/27/rebel-attacks-deepen-displacement-crisis-in-drcs-ituri-province
[5] Coordination Provinciale Lèpre et Tuberculose Ituri (2020). Rapport Narratif Annuel 2020. (PNLT Ituri Annual Report, 2020 [French])
[6] Coordination Provinciale Lèpre et Tuberculose Ituri (2019). Rapport Narratif Annuel 2019. (PNLT Ituri Annual Report, 2019 [French])
[7] Coordination Provinciale Lèpre et Tuberculose Ituri (2020). Rapport Narratif Annuel 2020. (PNLT Ituri Annual Report, 2020 [French])
[8] Ibid.
[9] Coordination Provinciale Lèpre et Tuberculose Ituri (2019). Rapport Narratif Annuel 2019. (PNLT Ituri Annual Report, 2019 [French]) and Coordination Provinciale Lèpre et Tuberculose Ituri (2020). Rapport Narratif Annuel 2020. (PNLT Ituri Annual Report, 2020 [French])
[10] Coordination Provinciale Lèpre et Tuberculose Ituri (2020). Rapport Narratif Annuel 2020. (PNLT Ituri Annual Report, 2020 [French])
[11] Ibid.

communication, and awareness raising.[12] The relays are experienced in working with the population, mainly to improve maternal and child health and strengthen malaria case management. However, they lacked knowledge on TB and capacity to identify signs and symptoms of presumptive TB.

Technical Approach

WHO calls for "meaningful community engagement" as "critical to improve the reach and sustainability of TB services and accelerate progress towards ending TB by 2030."[13] This community involvement can help identify presumptive TB cases in populations who are not reached by current health services and support treatment adherence in those patients already on treatment to reduce loss to follow-up.

In DRC, MTaPS advocates for strong community engagement in TB management to improve TB outcomes. The MTaPS approach is aligned with the PNLT's community engagement approach, which calls for strengthening the capacity of community members and raising their awareness on TB-related issues to facilitate early detection, contact investigation, and patient adherence to treatment for improved TB outcomes.

Through MTaPS' technical support, community relays improved TB case detection and treatment outcomes in their health zones by:

- Raising community awareness on TB
- Referring presumptive cases to diagnostic centers for testing and treatment
- Transporting sputum samples
- Providing home visits to support TB patients during treatment

To develop local capacity, MTaPS engaged relays through a two-stage capacity strengthening approach that included in-person training followed by practical implementation of TB case-finding campaigns.

Stakeholder Engagement

MTaPS provided technical support to the Ministry of Health for exchanges and discussions with the PNLT. MTaPS also collaborated with the Belgian nonprofit health nongovernmental organization Action Damien, which provides second-line TB drugs in DRC; ambassadors (recovered TB patients or people who had experienced TB at least once in their life and who act as mentors to people with TB); civil society organizations and other community-based organizations and partners to monitor and strengthen community engagement for TB detection and treatment in Ituri; and relays.

Implementation

MTaPS collaborated with Action Damien to provide technical and financial assistance to train relays in Ituri on TB and involve them in TB outreach. The program worked with the Ituri TB and Leprosy Provincial Coordination unit to organize a four-day training in August 2021 for the chief nurses and community relays in the Nizi and Bunia health zones. Because relays refer patients to nurses for TB diagnostic testing, MTaPS trained relays and nurses together to ensure that they had the same knowledge on community case finding and referral processes and could jointly improve case finding.

The training included:

- A presentation and discussion on general aspects of TB, the screening algorithm, TB diagnosis, case registration, and use of data collection and reporting tools
- A presentation on TB and TB/HIV co-infection control in the community
- Dissemination of the forms used for TB outreach and community case finding in DRC and a briefing on the use of these tools and other processes and procedures. These forms included a community active case finding checklist, orientation and follow-up tickets (for use in referring patients to a health facility for testing), TB contact investigation sheets, appointment cards, and job aids to support the relays in working with the population. Job aids included the algorithm for relays to follow when screening individuals and referring patients with symptoms indicative of TB for further testing and illustrated cards to help relays explain TB symptoms to the population.

[12] https://www.health4africa.net/2016/01/comite-de-sante-relais-communautaires-des-defis-pour-meilleur-role-dinterface-cas-de-la-republique-democratique-du-congo-rdc/

[13] https://www.who.int/activities/engaging-affected-communities-and-civil-society-to-end-tb

During the training, participants engaged in practical exercises and role play to assess their level of understanding regarding TB detection, patient referral, and case management. They became familiar with TB signs and symptoms and practiced using the PNLT screening checklist for community case finding. Through observation and discussion, training facilitators provided feedback to participants to improve their approach to engaging the population on TB issues. Throughout the sessions, participants had the opportunity to voice questions and concerns about the training material and the prospect of using their new knowledge in their communities.

Following the training, MTaPS supported the trained community relays to organize active screening campaigns to identify presumptive TB cases in communities in the Bunia and Nizi health zones. Each campaign began with a one-day orientation for relays, followed by four days of active screening. The campaigns took place in November 2021 in Bunia and December 2021 in Nizi. During the campaigns, the relays went door to door to visit community members, with a focus on residents in mining areas and IDP camps. The relays shared information about TB with each household to improve knowledge and understanding of TB and identify community members with presumptive TB symptoms. To screen for TB, the relays used a checklist of TB signs and symptoms. They provided brief counseling and guidance to individuals sent for diagnostic testing and completed referral documentation for each referred patient. The relays' role included collecting sputum samples from patients who lived in outlying villages and delivering them to the chief nurse at the health center for testing; patients who lived closer to the health center traveled there for testing. The chief nurses for each health zone oversaw and supported the work of the relays and assisted with referrals.

Since the campaigns, the relays have continued engaging in active case finding at the community level. Supported by other international organizations, including the Global Fund to Fight AIDS, Tuberculosis and Malaria, relays also play a role in treatment adherence support: when a community member receives a TB diagnosis, relays make follow up home visits to help them adhere to their treatment.

Results

With MTaPS' support, 44 community relays and chief nurses (20 female and 24 male) from the Nizi and Bunia health zones received training on TB and gained skills in raising public awareness of TB, identifying presumptive TB cases and referring them for diagnostic testing, and promoting treatment adherence.

During the two four-day campaigns in Bunia and Nizi, the community relays provided more than 31,000 community members with TB information and screened them for TB symptoms. They referred 1,041 people (407 in Bunia and 634 in Nizi) with presumptive TB symptoms to diagnostic and treatment centers. Of these, 16% (164) received a confirmed TB diagnosis following laboratory testing, 73% (119) of whom were newly diagnosed pulmonary TB (figure 2).

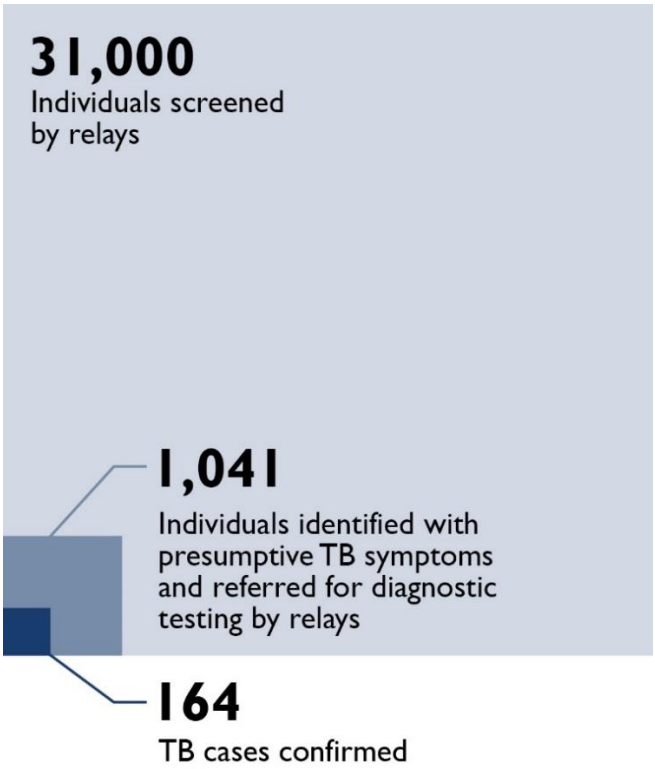

Figure 2. Screening, referral, and diagnosis during the four-day TB case finding campaigns

This intervention significantly boosted TB detection in Ituri province, where TB rates are high. Typically, screening 31,000 people would take much longer, but this campaign reached a large number in just 4 days per Health Zone, thanks to funding from MTaPS.

Lessons Learned

Involving various levels of health workers/ community volunteers in joint training and implementation of community health activities establishes the foundation for a stronger intervention and long-term collaboration.
While chief nurses already knew the basics of TB symptoms and diagnostic testing, including them in the training with relays helped to develop a relationship between the relays and the nurses and created an environment where the relays would feel comfortable seeking guidance from the nurses. The chief nurses are also responsible for providing supportive supervision to the relays in their community work, and the joint training ensured that the nurses knew what the relays' role was in TB outreach and community case finding and better enabled them to provide effective supportive supervision.

Engaging local community members can help achieve community ownership and fosters sustainability of health interventions.
By engaging community relays in training and TB campaigns, MTaPS contributed to the establishment of a local knowledge base on TB. Because relays are trusted members of their communities, they were able to gain access to households and were listened to by the population. Empowered with knowledge on TB, relays will continue to be a resource for their communities and to play a role in improving public awareness of TB; referring people with presumptive TB symptoms for diagnostic testing; and, in the medium term, helping to break the chain of TB transmission.

Pathway to Sustainability

With support from MTaPS, community relays in two health zones have received training on TB and have demonstrated their new capacity in community case finding. Chief nurses have been engaged in the process. The PNLT now houses the training materials for relays and can use them to expand this training. Under the coordination of the PNLT, other technical assistance partners, including Action Damien and Caritas (implementer of the Global Fund grant), continue to support the printing of the job aids and tools for community work on TB. With support from the PNLT and Ministry of Public Health, Hygiene and Prevention (MSPHP), the effective relay involvement in TB case finding, as demonstrated in the Bunia and Nizi health zones, can be expanded to other areas of the country and has the potential to contribute to reduced spread of TB, especially in areas where TB prevalence remains high, such as mining sites and IDP camps. This will require further government commitment to expand the routine role of relays to include TB case finding throughout the country.

Conclusions

Through the training provided by MTaPS and the experience of the campaigns, the community relays gained the skills to play an ongoing, active role in community-level case finding. This approach is especially important in DRC, with its large rural population and the strong influence of local leaders in the rural areas. However, for the results of the relays in TB case finding and treatment support to be sustainable, the integration of relays as community health workers will need to be fully institutionalized in the formal health care system. Currently, community relays are appointed on a voluntary basis. They are members of community organizations such as the health area development committees and community outreach units that have legal recognition and support from the Government of DRC. The Government's technical and financial partners provide incentives to motivate these community organizations.

Moving forward, to ensure the sustainability of community relay involvement in TB case finding, the MSPHP and PNLT can mobilize resources and build on the demonstrated success of relays in improving case finding numbers to advocate for incentives for relays. In Ituri, the PNLT can leverage the capacity of nurses and relays by supporting quarterly community case finding campaigns. To build on the proven success of the relays in the two pilot districts, the MSPHP should seek to foster ongoing engagement of relays in case finding and mobilize resources to scale up relay training and TB case finding to other districts in Ituri and to other provinces in DRC. Throughout MSPHP's implementation, it will be essential to capture home health visit data in DHIS2 and to prioritize the TB screening aspect of home health visits.

As part of its universal health coverage (UHC) program, the Government of DRC is calling for community

organization involvement in health care to have the same status as other health institutions, including a budget allocation. Under the UHC program, key community members would be formally appointed to their roles. This would allow the community relays to benefit from broader support as they engage in sensitization of the public on TB issues, early detection, and referral.

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About USAID MTaPS:

The USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program (2018–2025) enables low- and middle-income countries to strengthen their pharmaceutical systems, which is pivotal to better health outcomes and higher-performing health systems. The program is implemented by a consortium of global and local partners, led by Management Sciences for Health (MSH), a global health nonprofit.

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