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Home- and community-based management of malaria

Curbing malaria through the Tubiteho (Let's Take Care of Them) health activity in Burundi

Tubiteho is a USAID-funded project implemented by Pathfinder International with PSI, Population Media Center, Communauté des Eglises Pentecôtes du Burundi, and Dushirehamwe that aims to improve health of Burundians, especially women, children, and infants, through the achievement of three intermediate results: 1) Increased access to quality essential health services; 2) Increased adoption of positive health behaviors; and 3) Strengthened health systems. Launched in 2019 for five years, the project has been implemented in six provinces, including three in the north with high malaria incidence and three southern provinces with low malaria incidence.

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ON THE COVER: *Malaria screening at a mobile clinic held in Burundi's Karusi Buhiga health district during the 2022 malaria pandemic. Photo credit: Lewis Kwizera, PSI Burundi*

Background

Malaria is a major public health issue in Burundi. According to the 2022 health statistical directories, last year, 540 out of every 1,000 people contracted malaria, and it was the leading cause of death in hospitals: the malaria fatality rate in hospitals was 0.74% in 2022.

In 2011, Burundi's public health system introduced the integrated community case management (iCCM) of malaria in three pilot districts. iCCM involves engaging community health workers (CHWs) to test and treat malaria, pneumonia, and diarrhea in children under age five. In 2014, Burundi's government scaled up the iCCM strategy. Facing repetitive outbreaks of malaria and encouraged by the results of the iCCM strategy, in 2022, iCCM was extended to other age groups older than 5. This expanded program became known as PECADOM (*Prise en charge à Domicile*), or the household-based management of malaria.

The USAID-funded Tubiteho project, which has helped to strengthen the country's health structures and carry out government strategies, supported the implementation of iCCM/PECADOM. Tubiteho contributed to increasing the number of malaria cases treated by CHWs and reducing the number of malaria cases received by health facilities, thereby helping facilities to focus on other duties. Tubiteho also helped to increase the proportion of malaria cases treated within 24 hours of symptom onset, reducing the malaria fatality rate.

Tubiteho support to the iCCM/PECADOM strategy

To implement the iCCM/PECADOM strategy, Tubiteho trained CHWs on iCCM/PECADOM in four provinces: Karusi, Kirundo, Muynga, and Makamba. Tubiteho also trained CHWs on only iCCM in Bururi and Rumonge provinces. Trainings were complemented with proper equipment, coaching, and strengthening structures in charge of overseeing CHWs.

CHW TRAINING

To provide curative services within the community, CHWs assigned by the Ministry of Health to offer educational services in communities were best suited to deliver on the iCCM/PECADOM strategy. Tubiteho used existing structures and tools to strengthen systems and build for sustainability, including guides and tools elaborated in collaboration with the Ministry of Health to train CHWs. Tubiteho supported a cascade training approach and trained trainers of CHWs at district and facility levels, who, in turn, trained the CHWs.

The training of CHWs consisted of two parts: theoretical training and an internship conducted in a health facility to gain experience testing, using treatment flowcharts, and providing medicines. In the four supported provinces, Tubiteho trained four CHWs per colline (commune) to detect and treat malaria, for a total of 2,523 trained CHWs. In the two southern provinces, Bururi and Rumonge, two CHWs per colline were trained to treat children under 5, for a total of 332 CHWs.

Malaria screening at a mobile clinic held in Burundi's Karusi Buhiga health district during the 2022 malaria pandemic. Photo credit: Lewis Kwizera, PSI Burundi

CHW EQUIPMENT

The new task of CHWs (detect and treat diseases) required having equipment to test patients, dispose of medicines and other commodities, carry tools, and dispose of waste. Tubiteho provided essential equipment for conducting these curative duties: scales; timers; data collection tools including registers, referral/counter-referral sheets, commodities requisition sheets, stock management sheets, and treatment flowcharts; boxes to dispose of medicines; dishes to dispose of waste; and, backpacks, boots, and t-shirts. The equipment made it possible to implement the iCCM/PECADO strategy and contributed to the motivation of CHWs.

CHW coaching/supervision

Coaching CHWs is critical to success of the iCCM/PECADOM strategy. CHWs have a low basic educational level (generally to primary school), and providing treatment is a new task for them, requiring regular and close supervision.

In Burundi, CHW supervision faces several issues including a shortage of health promotion technicians (TPS) and facility-based staff in charge of supervising CHWs. The standards provide for a TPS per facility, but few facilities have one. TPS are direct supervisors of CHWs and their main connection with health facilities. Indeed, facilities without TPS appoint nurses to play the role of TPS, but they lack training on supervision of CHWs. Because there are many CHWs with each health facility, it is difficult for a TPS to cover them all. Lack of transportation also hinders CHW supervision capacity. **Tubiteho sought to address these challenges by:**

1 ***Training nurses appointed as CHW supervisors on community health system and CHW supervision.***

CHW performance in implementing iCCM/PECADOM directly depends on the capacity of their supervisors. In fact, it is these supervisors who train the CHWs and supervise them on a day-to-day basis, helping them to use protocols and algorithms, correctly manage commodities, complete data collection tools, etc. However, the nurses appointed to play the role of CHW supervisors were not prepared; they needed to be trained on conducting this new task. Thus,

Tubiteho organized trainings on the community health system and CHW supervision from March through September 2023. A total of 108 nurses were trained.

2 *Conducting grouped and rotating supervision of CHWs.*

To overcome the difficulty of reaching CHWs with supervision, Tubiteho encouraged the TPS to organize group supervision visits. The TPS visited four CHWs at a time in each colline, inviting three additional CHWs to join an individual session. The TPS coached the CHWs and conducted follow-up supervisory visits on a rotating basis. This helped the TPS to reach all CHWs with supervision each month.

3 *Conducting Tubiteho-district-facility joint supervision of CHWs.*

Tubiteho coordinated with district health teams to organize Tubiteho-district-facility joint supervisory visits with CHWs. This contributed to improving the CHWs' performance, motivating CHWs, and building the capacity of TPS to supervise CHWs. WhatsApp groups were created with facility-based supervisors of CHWs, district supervisors in charge of community health system, district medical heads, and project staff to facilitate communication and close interaction.

4 *Discussing the issues noted during supervision with stakeholders at district and province levels.*

Provincial teams organized coordination meetings involving all health actors operating in the province; these included district health teams, hospital representatives, project staff, and administration representatives. Tubiteho shared issues noted during CHW supervision visits for discussion and decisions.

5 *Coaching service providers on supply chain management.*

While commodities are necessary for a treatment strategy to succeed, the supply chain often encounters challenges that ultimately leads to a stock shortage. CHWs receive commodities from the health facility. Health facilities get commodities from the health district, and health districts get commodities from CAMEBU (Centrale d'Achats des Médicaments Essentiels, des Dispositifs Médicaux et des Produits et Matérials de Laboratoire du Burundi). Each level of the supply chain is likely to encounter one or more challenges. Tubiteho therefore intervened at all levels. At CHW level, Tubiteho strengthened the capacity of CHWs to use commodities management and commodities requisition sheets. In addition, Tubiteho supplied gloves when this commodity was lacking in the Ministry of Health stocks. At the facility level, Tubiteho invested in building the capacity of facility staff on supply chain management, regularly checking the stock situation and pushing facilities to requisition as soon as needed. At district level, Tubiteho helped conduct stock surveillance alerting district managers as soon as there were stock-out threats. Information on commodity availability from the national level was delivered to the district, and the district pushed for requisitions. Tubiteho ensured that national information on the availability of commodities reached district health teams and pushed the district health teams to requisition for supplies and commodities.

The iCCM/PECADOM strategy is an excellent way to reduce the burden of malaria on the health system.

However, critical points must be considered:

- The strategy must be integrated into the health system to facilitate the CHW supply system, the supervision of CHWs, and the community data reporting system.
- Health facilities and districts must be strengthened to ensure proper supervision of CHWs.
- CHWs must be compensated for their time.

ACCORDING TO GABRIELLA,

“In February of this year, my son had a fever, and I immediately called the community health worker who treated him at home and gave me advice on how to prevent malaria and how to feed him properly to avoid malnutrition. I am delighted that the community health workers have resumed their work of treating malaria at home and especially free of charge because sometimes we are obliged to pay the transport costs and put aside our household and farming activities to go and get treated. This is not an easy thing to do.”

— GABRIELLA MYAGIRWA

Mother of three-year-old boy, Hervé, who has contracted malaria six times since he was born. Mother and son live in Gisenyi Hill, Burundi.

Results

All the actions described above contributed to increasing the number of malaria cases received by CHWs; reducing the number of malaria cases received in facilities; increasing the proportion of malaria cases treated within 24 hours of symptoms appearing; and reducing malaria fatalities.

Increasing the number of malaria cases treated by CHWs

The iCCM/PECADOM strategy increases the accessibility of malaria case management services. Thus, the number of malaria cases received and treated by CHWs has gradually increased. In figure 1, the decrease in the number of malaria cases received by CHWs in 2020 coincides with the change of malaria treatment protocols; this interrupted CHW services until CHWs could be trained on the new protocols.

Increasing the proportion of malaria cases treated within 24 hours of symptoms appearing

One of the advantages of managing malaria cases at the community level is early diagnosis and treatment. As people seek services from their local CHW, it is easier for them to receive services, any time, day or night. Thus, the proportion of malaria cases receiving treatment within 24 hours of the appearance of symptoms increased. See figure 2.

Reducing malaria fatalities

The diagnosis and early management of malaria cases by CHWs reduced the number of serious cases arriving at health facilities, thereby reducing the number of malaria deaths. See figure 3.

Challenges

The iCCM/PECADOM strategy faced enormous challenges related to weak integration of the strategy into the health system. Although it is a government strategy, iCCM/PECADOM is not effectively integrated into the health system. In various places, CHWs had trouble obtaining medicines because health facility managers were reluctant to serve them. The unavailability of medicines nationally constituted another challenge, which slowed down the implementation of the

Figure 1

Evolution of malaria cases treated by CHWs in Tubiteho-supported provinces[1]

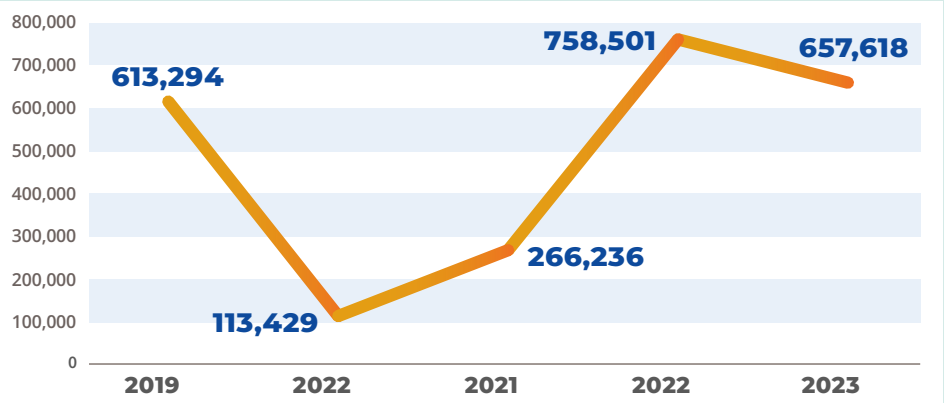


Figure 2

Percentage of cases treated within 24 hours in Tubiteho-supported provinces[2]

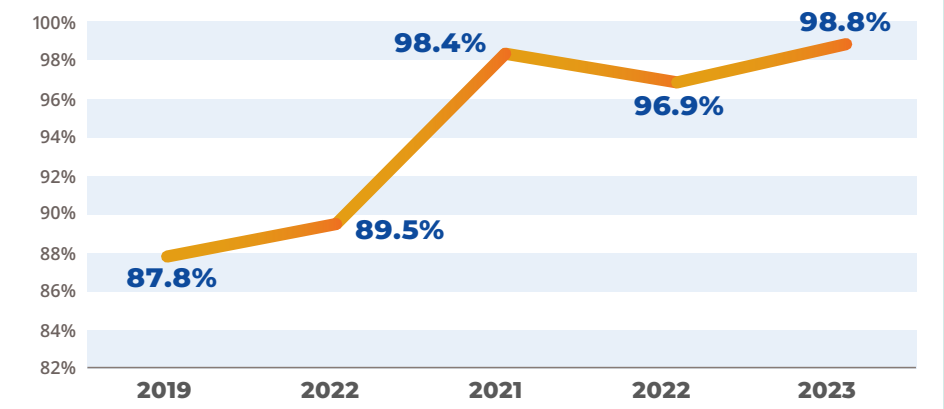
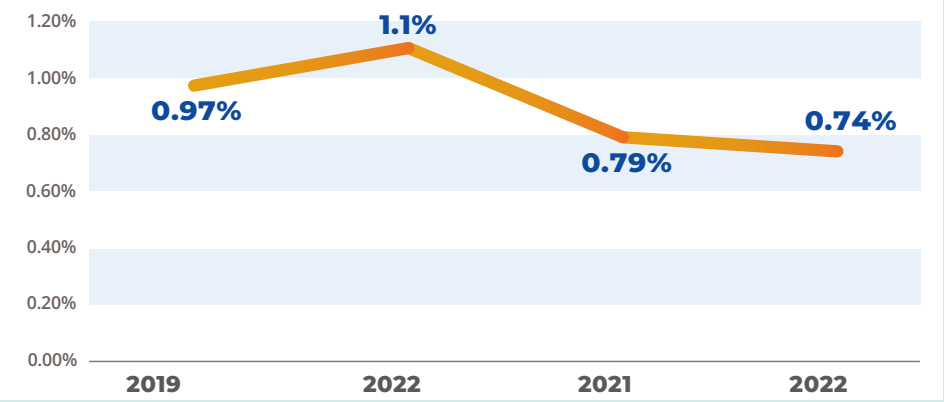


Figure 3

Malaria fatality rate in hospitals across Tubiteho-supported provinces[3]



strategy. It often happens that health facilities only receive a small part of the quantity of medicines requested; in this case, they cannot meet the needs of the CHWs for medicines. In addition, the lack of compensation to CHWs demotivated them. Indeed, CHWs are volunteers who devote a lot of time to healthcare activities, time that they could otherwise use for earning money.

[1] Data taken from the national database, DHIS2.

[2] Data taken from the national database, DHIS2. Numerator: number of malaria cases treated by CHWs within 24h of symptoms apparition; Denominator: the total number of malaria cases treated by the CHWs.

[3] Data taken from the national database, DHIS2. Malaria fatality rate: the number of malaria deaths per 100,000 population.

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