

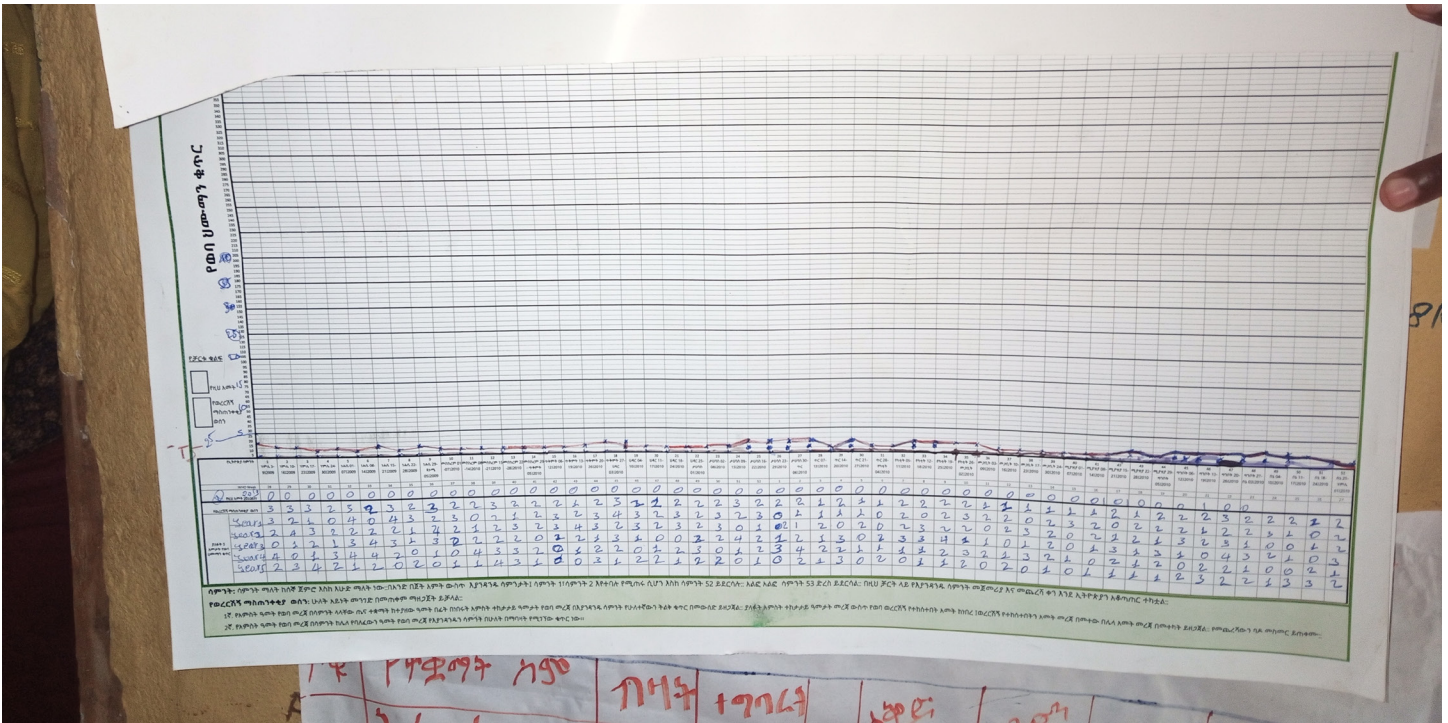


Improving malaria surveillance
through existing community
structures

Lessons learnt from Ethiopia

Key learning

- Existing community structures, such as health extension workers (HEWs) and the health development army (HDA), play a pivotal role in improving malaria detection and surveillance when malaria service provision is disrupted, such as during the COVID-19 pandemic.
- Regular capacity development in the form of training and supportive supervision creates an environment to enhance the knowledge and skills of HEWs and HDAs in active case detection and surveillance.
- The quality of weekly malaria reports made by phone and using paper forms can be improved by the use of alternative e-health reporting systems, including SMS.



Malaria monitoring charts facilitate early detection of malaria epidemics

Background

Ethiopia has achieved a significant reduction in malaria morbidity and mortality over the past two decades. From 2016 to 2019, the number of confirmed malaria cases and malaria-related deaths decreased by 47 percent and 58 percent, respectively.^[1] To support the move to malaria elimination, Ethiopia launched its Malaria Elimination Strategic Plan 2021–2025 in 2020.^[1] However, due to the COVID-19 pandemic, Ethiopia — like most malaria-endemic countries — experienced disruption to malaria service provision, resulting in a 30 percent reduction in malaria testing in the country in 2021.^[2]

In line with Ethiopia’s Federal Ministry of Health (FMoH) strategic direction, Malaria Consortium has been working with existing community structures, health centres, district health offices and community levels to improve malaria case detection and surveillance.

At the community level in particular, HEWs are the first point of healthcare provision to communities. As well as providing malaria testing and treatment services, they record and report malaria aggregated case data to the next health centre level through integrated disease surveillance and response and the district health information system2 (DHIS2) reporting systems. They also use weekly epidemic monitoring charts (EMCs) — a tool used to monitor malaria outbreaks and use malaria data for decision-making, such as for planning malaria commodities.

Working under the supervision of HEWs, the HDA plays an important role in active malaria case detection and referral of malaria cases, focusing on those most susceptible to malaria: pregnant women and children under five. This network of women volunteers is tasked with driving health-related behaviour change within communities.

Project activities

Through the three-year project Strengthening Community-based Malaria Prevention and Surveillance Interventions, Southern Nations, Nationalities and Peoples’ Region (SNNPR), funded by the James Percy Foundation, we are collaborating with the SNNPR Health Bureau and lower-level health authorities (the Wolaita Zone health department and the Boloso Sore and Damot Sore district health offices) to strengthen malaria surveillance and response in Boloso Sore and Damot Sore districts. To achieve this goal, we:

- provided capacity development training to 120 HEWs and 290 HDA leaders in 2020. For HEWs, this included malaria case detection, recording, reporting, using malaria data for commodities planning and using EMCs for epidemic monitoring; the HDA received training on detection and referral of suspected malaria cases to health facilities
- worked with the Health Bureau to supply health posts with malaria registration books and weekly malaria monitoring charts to strengthen malaria case recording and outbreak detection, respectively
- trained health workers from health centres and health managers from district health offices, who carry out supportive supervision and mentorship for HEWs and HDA leaders on malaria surveillance, data management and use
- organised and conducted joint regular supervision visits with the Wolaita Zone health department and project district health offices to monitor community-based malaria surveillance and to provide onsite support to HEWs and the HDA.

Results

As a result of the support that Malaria Consortium and implementing partners provided, surveillance systems in the Boloso Sore and Damot Sore project districts have shown the following improvements:

- The annual progress indicators showed that almost all health posts in the project districts have been using EMCs to monitor malaria outbreaks in year one and year two of the project period.
- The number of health facilities reporting complete, timely and quality data has improved considerably over the past two years, from 76 percent at baseline to 87 percent in year two.

Lessons identified

- Community structures such as HEWs and the HDA play a pivotal role in malaria case detection and surveillance. This is particularly the case when malaria service provision disruptions occur, such as during the COVID-19 pandemic. Disruptions including health facilities' prioritising COVID-19 services and social distancing, along with anxiety among communities to visit health facilities, weakened malaria surveillance efforts by formal healthcare structures. HEWs and the HDA were able to fill this gap through household visits and referral of malaria cases to health facilities.
- Capacity development training enhanced the knowledge and skills of HEWs and HDA leaders on malaria case detection and surveillance. We also found that training helped to refresh HEWs' skills on how to establish a 'normal malaria threshold' in their *kebele* (lowest administrative structure) using five years of weekly data. Training further supported HEWs and the HDA to monitor and respond accordingly to subsequent malaria outbreaks.
- HDA leaders and volunteers played a critical role in supporting the primary healthcare system by detecting malaria cases in their communities and networks, and referring these to health posts. This was particularly effective among pregnant women and children under five, as HDA leaders could easily refer febrile cases. The HDA has also been integral to efforts to detect and report outbreaks. For example, in the villages of Sunkale and Ladisa, reports of a malaria outbreak first came from the HDA and *kebele* leaders.
- The increased use of EMCs allowed HEWs to monitor malaria outbreaks. Using EMCs not only enabled HEWs to more easily identify malaria case build-up, but this information was also used to mobilise the community for malaria prevention and control activities and inform next-level health facilities
- HEWs are an essential link between communities and national reporting systems. They provide malaria testing and treatment both at health posts and during household visits. They then report aggregated malaria data to health centres using integrated disease surveillance and response forms and phones for weekly reports, and DHIS2 forms for monthly reports. Capturing these



HEW based at Shayamba kilena health post, Damot Sore

data embedded HEWs in annual district-based microplanning for malaria commodities throughout the project, such as insecticide-treated nets, rapid diagnostic tests and medications.

- While HEWs and the HDA were able to contribute meaningfully to improving malaria case detection and surveillance, challenges remain. HEWs did not receive consistent feedback from health centres and district health offices on their weekly reports, and there were gaps in the quality of weekly reports made using phones and paper forms. In response to these issues, the FMOH has been trialling an electronic community health information system (e-CHIS) to improve data reporting from HEWs, but implementation has not yet started in Boloso Sore and Damot Sore.
- Following a joint supportive supervision exercise conducted with implementing partners, we further identified that, in some health posts, there was a lack of complete five-year weekly malaria data to establish a normal threshold for EMCs. We also found gaps in some health posts in persistent monitoring of malaria outbreaks on a weekly basis using EMCs.

Recommendations

In light of the above lessons, we recommend that Ministries of Health and implementing partners should:

1. continue to **draw on existing community structures** — such as HEWs and the HDA — to conduct active malaria case detection and surveillance. This is in line with Ethiopia’s Malaria Elimination Strategic Plan and would support the creation of a **resilient malaria surveillance system**
2. **identify and address gaps** in malaria case detection, recording and reporting, and monitoring of malaria outbreaks using well-designed studies
3. **hold regular refresher trainings**, and continue to monitor and mentor HEWs on the recording and reporting of malaria data and on the monitoring of malaria outbreaks using EMCs as an epidemic monitoring tool. This would encourage greater use of **data for decision-making**
4. consider **reporting alternatives**, such as e-health reporting systems (including SMS) to improve weekly malaria data reporting by HEWs to health centres, which would help address challenges in reporting quality — particularly during disruptions such as COVID-19. Additionally, implementation of the government-led e-CHIS should be expedited.

References

1. Federal Ministry of Health. Ethiopia malaria elimination strategic plan: 2021-2025. Addis Ababa: FMOH; 2020. Available from: <https://elibrary.moh.gov.et/library/wp-content/uploads/2021/07/Ethiopia-Malaria-Elimination-Strategic-Plan-2021-2025-Agust-31.pdf>
2. World Health Organization. World malaria report 2021. Geneva: WHO; 2021. Available from: <https://www.who.int/publications/i/item/9789240040496>.

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Cover image: Chinasho Amarech is an HEW and provides primary healthcare in her community of Dola Kebele in Wolelyta, Ethiopia

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