



### **Areas of focus**

# Accelerating disease burden reduction to elimination

Mozambique has the fourth-highest malaria burden, accounting for 4.2 percent of cases and 3.2 percent of malaria deaths globally.<sup>[1]</sup> We work closely with national and international stakeholders to reduce the malaria burden and accelerate elimination targets.

## Implementing seasonal malaria chemoprevention in new geographies

Malaria Consortium is a leading global implementer of SMC, an intervention recommended by the World Health Organization (WHO) for children 3–59 months in areas of highly seasonal malaria transmission. In 2022, WHO issued updated guidelines that provide greater flexibility to malaria-endemic countries to adapt SMC strategies to local contexts. The guidance also no longer defines geographic restrictions, which opens up the possibility of using SMC in areas outside of the Sahel, where the intervention has been implemented.

In 2020/2021, we partnered with the NMCP and Centro de Investigação em Saúde de Manhiça (CISM) to conduct implementation studies to determine if SMC is a viable malaria prevention strategy in Mozambique, despite observed resistance to the antimalarial drugs sulfadoxine-pyrimethamine and amodiaquine (SPAQ). Our research found that SMC with SPAQ is safe, feasible and acceptable in the local context, with high coverage achieved across the study areas. This research enabled us to scale up SMC in Nampula, reaching around 1.5 million children in 2022, and we are targeting 1.5 million children in 2023/2024 across all 23 districts in the province.

We have been collaborating closely with the eGov Foundation, the Bill & Melinda Gates Foundation and the Mozambique government to input the priorities of SMC campaigns into a digital system that will allow us to plan the implementation of a fully digital approach for the 2023/2024 SMC campaign in Nampula. This will enable us to capture, record and analyse data more efficiently and effectively, and enable supervisors to monitor community distributors' movements during SMC campaigns.

Further reading: bit.ly/40G4joi and bit.ly/3pKtsQH

# Data-informed decision-making and digital solutions

Data-informed strategies are key to achieving the WHO target of reducing global malaria cases and deaths by 90 percent by 2030. [2] In Mozambique, we support the government to strengthen malaria surveillance systems, including with digital tools, to enable evidence-based public health decisions.

### Strengthening surveillance to target resources and tailor strategies

We are collaborating with project partners, with support from the Bill & Melinda Gates Foundation through Fundação Manhiça, to implement a functional malaria molecular surveillance system in health facilities across seven provinces of Mozambique. The project, known as GenMoz, seeks to guide decision-making related to malaria control and elimination by monitoring the genetic markers of the *Plasmodium falciparum* parasite that indicate resistance to antimalarial drugs and diagnostics. This activity will enable us to recommend new tests and drugs in Mozambique that are effective against the parasite. These efforts will improve case management through prompt and correct diagnosis and will help to reduce cases of severe malaria and malaria-related mortality.

In conjunction with this work, we are collaborating with the NMCP to integrate genomic data — including molecular markers for resistance to drugs and diagnostic tests — into routine surveillance activities. Genomic surveillance will supplement traditional surveillance by measuring genetic diversity within *P. falciparum* to help us better understand the importation of malaria into low-transmission settings, and to inform transmission dynamics in medium- to high-transmission areas. This will enhance programmatic decision-making by strengthening routine data quality, data use and data-to-action packages, enabling us to tailor intervention strategies and to target reservoirs sustaining malaria transmission in near-elimination settings.

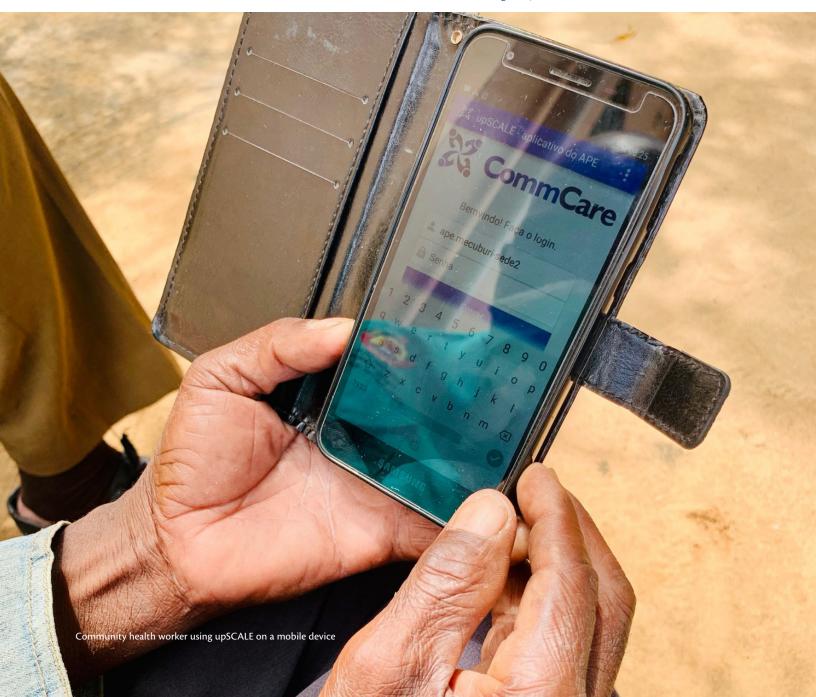
Further reading: bit.ly/3loXqiF

#### Improving community-based health services through data-informed decision-making

Data ownership and data-informed decision-making are essential to strengthen community health programmes and build robust and resilient health systems. In 2016, we collaborated with the MoH and UNICEF to transform our successful pilot project — the inSCALE mobile phone application — into a complete digital platform that can connect patients and health workers, improve the quality of services and bolster health-information reporting in remote areas. The MoH-led upSCALE platform strengthens the health system, improving the quality and coverage of iCCM by assisting community health workers (CHWs) with diagnosis, treatment and referral of cases. It also allows supervisors to monitor the performance of CHWs and stock levels of medical and non-medical supplies.

Between 2017 and 2022, more than 200,000 households received healthcare supported by the upSCALE app and almost 650,000 patients were registered on the platform. This enabled the collection of a unique data set that has provided invaluable insights into the causes of disease and its epidemiology at the community level. The ongoing use of near real-time data and localised analysis on disease-specific trends for decision-making have also optimised resource allocation. To improve sustainability, we developed upSCALE with CHWs and supported MoH ownership, aligning the platform with national guidelines for community-based care. The platform has been implemented in seven out of 10 provinces, with the aim of expanding coverage nationwide by 2024 with full integration into the health system.

Further reading: bit.ly/3rkA6NW





Community health worker attending a patient in the Umpala community, Boane district, Maputo province

# Health sector resilience and universal health coverage

We work with communities and health systems, with a focus on capacity development and innovative community engagement approaches, to strengthen resilience at all levels.

## Strengthening malaria surveillance systems to improve malaria management

We are supporting the U.S. President's Malaria Initiative (PMI) Malaria Capacity Strengthening Program (MCAPS) to strengthen capacity in the provision of malaria services. Our work aims to improve adherence to malaria service delivery protocols in targeted areas; to strengthen the generation, quality and use of malaria data; and to increase the capacity of the MoH and local stakeholders to plan and manage evidence-based malaria interventions.

By supporting staff to continuously improve their own work, we assist the NMCP in developing the capacity of health staff at all levels to strengthen the quality of routine data, data use and translating data into action. In the first year of implementation, almost 300 health facilities across all 57 districts received integrated supportive supervision visits and data quality assessments. To increase data use, health technicians were trained in surveillance, monitoring and evaluation: over 1,486 technicians were reached through on-the-job training and 138 through classroom training.

Further reading: <u>bit.ly/3qXZ4N9</u>, <u>bit.ly/2SmSBj0</u> and <u>bit.ly/43bkuu5</u>

## Supporting health system responsiveness and pandemic preparedness

Malaria Consortium supports the MoH to enhance the resilience of the health system, enabling the country to respond effectively to various health challenges, including pandemics, while maintaining high-quality malaria services.

We have led the development of guidance to govern activities for safe and continuous service delivery, addressing both pandemic and routine malaria care. This includes the development of global operational guidance on adapting SMC to minimise risk, which was published by the Roll Back Malaria Partnership to End Malaria. We also developed enhanced safety protocols for SPAQ administration that would apply to areas where we support SMC implementation.

In 2020, we conducted a cross-sectional survey of knowledge, attitudes and practices to inform the MoH's response to COVID-19. Our study revealed that, at the start of the pandemic, few CHWs could correctly identify COVID-19 symptoms, transmission routes and preventive measures. Based on these findings, we rapidly developed an integrated plan to adapt upSCALE to help CHWs better understand and manage COVID-19. To reinforce government messaging and dispel misinformation, we co-developed targeted awareness and educational materials and effectively shared these through SMS, video and audio messages, ensuring that communities were informed and understood how to seek treatment and prevent illnesses.

Collectively, these efforts have ensured the continuity of malaria prevention and treatment while protecting people against COVID-19 and simultaneously improving community and institutional resilience.

Further reading: bit.ly/upSCALE-COVID-19 and bit.ly/378HCh6





#### Influencing policy and practice

We carry out high-quality operational and implementation research and evaluations to support new, evidence-based interventions. We document and share this learning to inform programme improvement and promote uptake into national policies.

#### Research to inform policy change

Understanding the impact of SMC in areas of drug resistance is essential to develop effective and sustainable policies at the national level. In 2020–2021, we assessed the protective effectiveness of SMC and the impact of SMC on drug resistance following a campaign that delivered medicines to 120,000 children in Nampula province. We employed quantitative and qualitative methods, including interviews, focus group discussions and health facility data analysis. Our research suggested that SMC was safe, feasible, acceptable and highly effective in Nampula. Despite high rates of SP resistance, one annual round of SMC did not appear to have a negative impact on the resistance profile.

A second phase of the research undertaken in 2022 involved a cohort study to assess the efficacy of SPAQ to clear existing infections and prevent new infections in the context of high parasite resistance. This phase gathered more robust evidence of the effectiveness of SMC to inform policy change. Preliminary results show that children in the intervention arm had a 77 percent lower risk of a malaria episode (confirmed by rapid diagnostic test) during the peak transmission season than children in the control arm.

Further reading: bit.ly/35Xr38U

# Collaborations and strategic partnerships

Since establishing a presence in Mozambique, Malaria Consortium has built close working relationships with the Mozambican MoH, the NMCP, PNAPS and provincial and district health authorities.

The important work we do in Mozambique would not be possible without the generous support from our donors, including the Bill & Melinda Gates Foundation, UNICEF and, previously, UK aid from the UK government. PMI MCAPS is supported by the United States Agency for International Development.

Many partner organisations contribute to the success of our projects in Mozambique. We are particularly grateful for our fruitful collaborations with the Barcelona Institute for Global Health, Clinton Health Access Initiative, Dimagi, Goodbye Malaria/LSDI2, the Institute for Disease Modeling, CISM, the University of California San Francisco, PMI, Medical Care Development and WHO.

Malaria Consortium is one of the world's leading non-profit organisations specialising in the prevention, control and treatment of malaria and other communicable diseases among vulnerable populations.

Our mission is to save lives and improve health in Africa and Asia through evidence-based programmes that combat targeted diseases and promote universal health coverage.

### References

- 1. World Health Organization (WHO). World malaria report 2023. Geneva, Switzerland: WHO; 2023.
- 2. WHO. Global technical strategy for malaria 2016–2030, 2021 update. Geneva, Switzerland: WHO; 2021.
- 3. Roll Back Malaria Partnership to End Malaria. Adapting seasonal malaria chemoprevention in the context of COVID-19: Operational guidance. RBM; 2020. Available from: <a href="https://www.malariaconsortium.org/resources/publications/1336/adapting-seasonal-malaria-chemoprevention-in-the-context-of-covid-19-operational-guidance">https://www.malariaconsortium.org/resources/publications/1336/adapting-seasonal-malaria-chemoprevention-in-the-context-of-covid-19-operational-guidance</a>

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**Cover image**: Mother and son in Mozambique, where SMC was implemented for the first time in 2020. Credit: Ruth Ayisi

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