

# Combatting malaria through strong health systems

## The most direct path to sustainable malaria control.

In 2024, there were 282 million malaria cases and 610,000 deaths globally - the vast majority in sub-Saharan Africa, where children under five account for 75% of all malaria deaths (WHO, 2025). Progress has stalled: in many high-burden countries, case incidence has plateaued or reversed, drug resistance is spreading, and the gap between what is known and what is delivered at the point of care remains large. Artemisinin (current standard malaria treatment) partial resistance, first documented in Southeast Asia, is now confirmed in East Africa. Insecticide resistance is widespread, and climate change is expanding transmission into new areas while intensifying seasonal patterns in high-burden areas. These dynamics demand adaptive, locally grounded responses that go beyond standard commodity packages.

A further dimension is the progressive introduction of malaria vaccines across sub-Saharan Africa. WHO recommends two vaccines - RTS,S and R21 - shown to reduce clinical malaria episodes by up to 75% in children in high-transmission areas. Burundi launched RTS,S into its routine immunisation programme in March 2025 (WHO, 2026; UNICEF et al., 2025). The limited scale and impact of such vaccine roll-out through routine platforms makes a strong case for health system strengthening.

Malaria is both a disease and a health system problem. Commodities - insecticide-treated nets, diagnostics, medicines - are necessary but insufficient: their impact depends entirely on a health system's capacity to procure, distribute, and use them correctly, and to measure results. In high-burden countries, frontline workers are under-supervised, supply chains fragile, diagnostic quality inconsistent, and health data incomplete or unused; these constraints directly affect outcomes.

### Positioning

The WHO Global Technical Strategy for Malaria 2016–2030 (GTS) defines the framework: universal access to prevention, diagnosis and treatment; accelerated elimination; and surveillance as a core intervention. It explicitly recognises that achieving these goals requires not only the right tools, but a

functioning health system to deliver them equitably - and that strategies must be adapted to local context (WHO, 2021).

Enabel's position is that sustainable malaria control is inseparable from health system performance. Disease-specific investments remain relevant; their effectiveness relies on well-functioning health systems. Enabel's distinctive approach - double anchorage - operationalises these conditions simultaneously at central and district levels: connecting national strategy with district realities, with systems owned and managed by public institutions. Research and innovation are integral: evidence generated within the system, by national institutions, is what allows programmes to adapt and improve over time. This approach is supported by strategic partnerships, including with the Gates Foundation, which enables the integration of innovation and health system strengthening.

Enabel has been supporting health sectors in more than ten African countries for over two decades. This paper sets out Enabel's strategic approach to malaria, built around four pillars: accessible quality care, well-organised public services, reliable health data, and investment in research and innovation.

## Enabel's approach: four pillars

### Accessible quality care for the population

Combatting malaria requires correct diagnosis and treatment at every level of the care pathway, without delay or prohibitive cost. Enabel supports integrated management of fever from community to district hospital. At community level, health workers are trained and equipped to test and treat uncomplicated malaria under supervision. At facility level, Enabel enhances diagnostic quality, clinical protocols, and referral for severe cases, including blood transfusion. Financial barriers matter as much as geographic distance. In several partner countries like Burundi, Niger, Senegal and Guinea, Enabel supports health insurance schemes. This approach helps alleviate financial burdens, especially for children and pregnant women. In Burundi, where malaria accounts for nearly 60% of outpatient consultations, policies ensuring free access to care for pregnant women and children under five have significantly increased access to malaria diagnosis and treatment.



### Well-organised public health services at all levels

Effective malaria control requires a health system organised, supervised, and managed at every level. Enabel invests directly in institutional capacities. At district level, it strengthens management cycles: performance analysis, evidence-based planning, structured supervision, and data-to-decision feedback loops. At national level, it supports strategic planning, Global Fund proposal development, and coordination among partners. In Burundi and Niger, Enabel directly supports the Ministry of Health in developing national malaria strategic plans and submitting successful Global Fund applications. Double anchorage ensures field experience shapes national planning and national guidance reaches district teams. In countries where Enabel has a long-term presence - including Burundi, Niger, the Democratic Republic of Congo, Uganda, Guinea and Benin - malaria initiatives are embedded within broader health system strengthening efforts rather than implemented as stand-alone vertical programmes.

Strengthening general facility performance - referral systems, emergency services, supply chains - directly benefits malaria patients. Evidence from facility surveys supports this. In Guinea, facilities with higher readiness achieved 85% correct case management for suspect malaria cases, compared to 52% in lower-performing settings, and all facilities in better-performing strata had malaria diagnostics and treatment available on the day of visit (Davlantes et al., 2019). In Uganda, higher facility readiness was associated with 64-68% lower malaria-related mortality among lower-level health centres (Ssempiira et al., 2018).

### Reliable health data to drive effective decision-making

The WHO GTS identifies surveillance transformation as a core strategic pillar (WHO, 2021). Without reliable data, programmes cannot know where transmission is highest, whether approaches work, or where resistance is emerging. In practice, surveillance faces severe structural constraints: inconsistent data encoding, fragmented reporting flows, and systems that generate reports but not decisions. Enabel invests in data quality at the point of collection, system integration, and the analytical capacity needed to act on data. This includes strengthening routine data systems across all levels, as well as integrating innovations such as artificial intelligence (AI)-powered diagnostic tools into supervisory and reporting processes. In Burundi and Niger, this has meant building a National Malaria Data Repository - integrating the District Health Information Software (DHIS2), hospital systems, and community digital tools into a single architecture managed by the National Malaria Control Programme.

### Investment in research and innovation

Sustainable malaria control requires continuous learning: testing what works in specific contexts, detecting emerging threats before they scale, and generating evidence that national programmes can act on. Enabel integrates research and innovation as a full pillar of its malaria approach through two complementary tracks:

#### Action research for operational innovation.

Action research tests new approaches within the functioning health system, with findings fed directly back into programme decisions. Enabel systematically embeds this learning cycle across its malaria programmes: evaluating AI-assisted diagnostic tools at community level, assessing the integration of gender-sensitive approaches into national malaria strategies, investigating community case management effectiveness and coverage, and testing digital innovations for their operational performance. In Burundi, AI-assisted Rapid Diagnostic Test (RDT) reading at community level has generated real-time operational data now feeding into supervision systems and informing scale-up decisions.

#### Nationally owned academic research, with high-level institutional partners.

Two biological threats increasingly compromise malaria control: artemisinin combination therapy (ACT) resistance - now confirmed in East Africa - and *Plasmodium falciparum* parasites with *hrp2/3* gene deletions causing false-negative RDT results (WHO, 2025). Responding to these threats requires molecular surveillance capacity anchored in national institutions and conducted by national researchers, rather than externally managed and imported as a finished product. Enabel supports this capacity in partner countries where epidemiological and institutional conditions warrant it, working with institutions such as the Institute of Tropical Medicine Antwerp (ITM) in a model where national institutes own the research agenda, national scientists lead implementation. International partners provide technical support and methodological expertise. This model, piloted in Burundi through a collaboration between ITM and the National Institute of Public Health (INSP) to establish a Malaria Molecular Surveillance System, is designed for replication: the same principles of national ownership, institutional capacity building, and integration into routine malaria control apply wherever Enabel operates. The goal in every context is the same: national researchers generating the surveillance data that national programmes need for making adaptive, evidence-based policy decisions.

## Strategic implications

The global malaria community faces a convergence of pressures: ACT resistance spreading into East Africa, RDT reliability compromised by parasite mutations, climate change reshaping transmission dynamics, and funding under strain. In several high-burden countries, including Niger, prolonged rainy seasons and flooding are driving significant increases in malaria cases. These evolving patterns demand the kind of adaptive, evidence-driven response that Enabel's four-pillar approach is designed to support.

### **Sustainability requires institutional embedding.**

Gains not anchored in national systems and management cycles are reversible. The measure of a well-designed malaria programme is the institutional capacity it has helped build.

### **Subnational heterogeneity requires locally**

**grounded strategies.** Transmission intensity and programme performance vary enormously within countries. Disaggregated data, functional district management, and adaptive intervention mixes must be built at district level.

### **Digital innovation must serve the system, not bypass**

**it.** Fragmented digital ecosystems generate information without action. The standard should be interoperability with national Health Management Information Systems (HMIS), government management, and institutionalisation.

### **Emerging threats require nationally anchored**

**research capacity.** Resistance monitoring and molecular surveillance must be managed by national institutions in order to detect threats early, interpret results and adapt policy accordingly.

## Recommendations

- 1. Balance commodity investment with health system investment.** Financing treated bed nets, diagnostics and medicines is necessary but not sufficient. Comparable resources must be devoted to training, supervision, supply chain management, and data quality.
- 2. Invest in district health system performance.** District health management teams are the operational engine of malaria control. Strengthening their planning, supervision and data-use capacities is cornerstone to highest return investments.
- 3. Treat surveillance with due and careful attention.** Surveillance systems must be strengthened with the same rigor as prevention and treatment strategies. Data quality, analytical capacity, and governance mechanisms that translate data into decisions all require deliberate investment.
- 4. Apply a national ownership standard to digital health.** Digital tools must be evaluated on integration into national data architectures, management by national institutions, and scalability.
- 5. Commit to long-term partnerships with national institutions.** Genuine health system reform cannot be built in a five-year project cycle. Multi-cycle commitments are needed to allow adaptive implementation, honest dialogue, and meaningful capacity transfer.
- 6. Integrate climate-informed approaches into malaria programming.** Climate-sensitive surveillance, early warning systems, and adaptive deployment of seasonal malaria chemoprevention and vector control are essential to respond to increasingly variable transmission dynamics.

## Conclusion

The WHO Global Technical Strategy for Malaria provides the right framework. The real challenge lies in the conditions required to implement it: a population able to access quality care when with fever; a public health service organised and managed at every level; reliable, integrated, health data used for decision-making; and a research system that detects emerging threats and generates actionable evidence for national programmes. These are the operational prerequisites for everything else - and the foundation of Enabel's approach.

## References

- Davlantes, E., Camara, A., Guilavogui, T., Fofana, A., Balde, M., Diallo, T. Bah, I., Florey, L. Sarr, A. Butts, J. & Plucinski, M., 2019. Quality of Malaria Case Management and Reporting at Public Health Facilities in Six Health Districts in Guinea, 2018. American Journal of Tropical Medicine and Hygiene, 101(1): 148–156.
- Enabel, 2026. Position Paper: Turning health rights into reality: why it is crucial to strengthen health systems. Brussels: Enabel.
- Enabel, 2025. Annual Progress Report: Malaria Programme Burundi and Niger (INV-045702). Brussels: Enabel.
- Ssempiira, J., Kasirye, I., Kissa, J., Nambuusi, B., Mukooyo, E., Opiyo, J., Makumbi, F., Kasara, S. & Vounatsou, P., 2018. Measuring health facility readiness and its effects on severe malaria outcomes in Uganda. Scientific Reports, 8:17928.
- UNICEF et al., 2025. [Communiqué de presse](#): Le Burundi introduit le vaccin contre le paludisme dans son programme de vaccination de routine. Bujumbura, 17 mars 2025.
- World Health Organization, 2021. Global Technical Strategy for Malaria 2016–2030: 2021 update. Geneva: WHO.
- World Health Organization, 2025a. World Malaria Report 2025. Geneva: WHO.
- World Health Organization, 2025b. WHO Guidelines for Malaria, August 2025. Geneva: WHO.
- World Health Organization, 2026. [Malaria vaccines \(RTS,S and R21\)](#): Questions and Answers. Geneva: WHO.



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