

# **Regional Committee for Africa**

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Provisional agenda item 11

## Addressing threats and galvanizing collective action to meet the 2030 malaria targets

## **Technical paper**

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#### **Background**

- 1. The Member States of the WHO African Region continue to fight against malaria by implementing the Framework for the integrated control, elimination and eradication of tropical and vector-borne diseases in the African Region 2022–2030. The Framework (AFR/RC72/7) was adopted at the Seventy-second session of the Regional Committee for Africa and aligns with the Global Technical Strategy (GTS) for malaria 2016–2030<sup>1</sup> and the Sustainable Development Goals.
- 2. This technical paper was developed in response to the concerns expressed by Member States at the Seventy-fourth Regional Committee, where they called for urgent action to accelerate malaria prevention and control (AFR/RC74/INF.DOC/8). It highlights the state of progress towards the GTS milestones,<sup>2</sup> major challenges, and recommendations to reinvigorate current efforts to accelerate progress to meet the GTS targets by 2030.
- 3. The World Malaria Reports for the period 2016–2023 have consistently indicated that progress in malaria control has stalled.<sup>3</sup> Between 2015 and 2023, malaria incidence reduced by 5%<sup>4</sup> and malaria mortality by 16%.<sup>5</sup> However, these reductions fell short of the 2020 regional and global targets of a 40% reduction in malaria incidence and deaths from the 2015 baseline. Without a significant shift in response strategies, the 2025 milestones and 2030 targets will be missed.
- 4. Wide disparities, however, exist in the disease trends across countries. In the WHO African Region, only Rwanda is on track to meet the GTS 2025 target for reduction in malaria case incidence, while only Sao Tome and Principe is on track to meet the GTS 2025 mortality reduction milestone. In 2024, Cabo Verde became the second Member State in the Region to be certified malaria-free since 2015, following Algeria's certification in 2019.
- 5. There have been increases in the coverage of interventions. Insecticide-treated net (ITN) use rates among the general population increased from 46% in 2021 to 59% in 2023; the number of children accessing seasonal malaria chemoprevention increased from 0.2 million in 2012 to 53 million in 2023 across 18 Member States,<sup>6</sup> while close to 5 million children received malaria vaccines by December 2024 in 17 countries.<sup>7</sup>
- 6. WHO and partners launched the high burden to high impact (HBHI) initiative<sup>8,9</sup> in 2018. It was revived in 2024 through the signing of the Yaoundé Declaration to end malaria deaths and accelerate elimination efforts to get Member States back on track.

Global technical strategy for malaria 2016–2030, 2021 update. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.

<sup>4</sup> 226.8 per 1000 population in 2023 compared to case incidence of 238.9 per 1000 population in 2015

<sup>5</sup> 52.4 per 100 000 population in 2023 compared to 62.5 per 100 000 population in 2015

Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Mali, Mauritania, Mozambique, Niger, Nigeria, Senegal, South Sudan, Togo, Uganda.

Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ghana, Kenya, Liberia, Malawi, Mozambique, Niger, Nigeria, Sierra Leone, South Sudan, Sudan.

<sup>8</sup> The HBHI initiative involves advocacy campaigns to boost political commitment, increase investments in data systems and the use of strategic information for action; and improve technical guidance for countries and multisectoral coordination

WHO World Malaria Report (2023); (see Chapter 4). (WHO World Malaria Report 2023)

GTS milestones for 2025: reduce malaria case incidence and deaths by at least 75% compared to 2015 and eliminate malaria in at least two Member States and prevent its re-establishment in formerly endemic countries; 2030: reduce case incidence and malaria deaths by at least 90% compared to 2015, eliminate malaria in at least six countries and prevent its re-establishment in formerly endemic countries.

<sup>&</sup>lt;sup>3</sup> WHO, World Malaria report 2024

#### **Issues and challenges**

- 7. The WHO African Region continues to shoulder the heaviest malaria burden, representing 95% of the 597 000 global deaths and 94% of the 263 million malaria cases in 2023. The stalling of progress in malaria incidence reduction is attributed to a convergence of challenges.
- 8. **Health system weaknesses:** Weak health systems in Member States, characterized by poor and delayed access to quality health care services, health workforce shortages, and frequent stock-outs of life-saving commodities, hinder the effective provision of primary health care interventions. Improvements in access to and quality of care, especially at the primary health care level, has the most significant impact in high-burden countries. Furthermore, less than 5% of people suffering from malaria access treatment services through community health workers, despite their significant contribution to the decline of severe malaria cases and deaths in countries such as Ethiopia, Rwanda and Ghana. Randa Ghana.
- 9. **Humanitarian crises:** Sociopolitical conflicts and natural disasters have caused migration and population displacements, increasing exposure to malaria and leading to both epidemics and significant spikes in cases and deaths. Examples include outbreaks in Ethiopia<sup>12</sup> and South Sudan. <sup>13</sup> Ethiopia, Nigeria and Uganda accounted for 64% <sup>14</sup> of the 5 million additional cases observed between 2021 and 2022 globally. In 2023, about 80 million people in malaria-endemic countries were internally displaced persons or refugees, of which 70% were uprooted by conflict or natural disasters, with low access to malaria services.
- 10. **Suboptimal demonstration of political will evidenced by inadequate domestic financing and resource mobilization**: Limited commitments and action beyond declarations and insufficient domestic funding undermine sustainable malaria control efforts, leaving programmes heavily reliant on external support. Despite several declarations on increasing domestic resources for health, very few African governments have met their commitments due to the constrained economic environment and conflicting national priorities. <sup>15</sup> In 2023, a total of US\$ 4 billion was invested globally in the malaria response, compared to a total need of US\$ 8.3 billion, representing a gap of US\$ 4.3 billion. About 63% of malaria funding came from international sources. To address this imbalance, national initiatives have been launched to mobilize resources, including End Malaria Councils, with eight Member States<sup>16</sup> mobilizing about US\$ 125 million since 2018, while national malaria elimination campaigns have been conducted to increase political commitment and foster multisectoral collaboration and community participation. <sup>17</sup>
- 11. **Environmental factors including climate change:** Climate change has had direct and indirect effects on malaria transmission and burden. Short-term extreme weather events can lead not only to population displacement and socioeconomic devastation, but also to large epidemics of diseases such

<sup>12</sup> Disease Outbreak News. (https://www.who.int/emergencies/disease-outbreak-news/item/2024-DON542)

Sahu M, Tediosi F, Noor AM et al. Health systems and global progress towards malaria elimination, 2000–2016. *Malar J* 19, 141 (2020). (https://doi.org/10.1186/s12936-020-03208-6)

WHO, World Malaria Report 2024

<sup>13 (</sup>https://www.afro.who.int/countries/south-sudan/news/south-sudan-marks-malaria-day-calls-robust-multisectoral-actions-reduce-malaria-burden)

Ethiopia and Nigeria (over 1.3 million each), Uganda (over 597 000))

WHO African Region, Health Expenditure Atlas, 2023

<sup>16</sup> Eswatini, Guinea-Bissau, Kenya, Mozambique, Nigeria, United Republic of Tanzania, Uganda, Zambia.

<sup>&</sup>lt;sup>17</sup> African Union Malaria Progress Report (2024)

as malaria. Notable examples include recurrent, related cyclone events and flooding along the coastline of Mozambique, leading to transient rises in cases of malaria.

- 12. **Insecticide resistance:** Widespread insecticide resistance, especially pyrethroids, confirmed in 34 of the 47 countries<sup>18</sup> across the African Region, has reduced the efficacy of insecticide-based interventions. In addition, the new invasive vector, *Anopheles stephensi*, which causes increases in urban malaria in the Horn of Africa, has spread to five Member States, <sup>19</sup> requiring novel vector control interventions. The implementation of insecticide resistance strategies, the adoption of dual active ingredient insecticide-treated nets, new chemistries for indoor residual spraying, larval source management, and other innovative tools such as genetically modified mosquitoes can be effective in addressing the challenge. In 2024, the Global Fund to Fight AIDS, Tuberculosis and Malaria increased the proportion of dual active ingredient bed nets to 60%, on the basis of insecticide resistance data. The WHO Regional Office is also implementing an initiative that was launched in 2022 to stop the spread of *Anopheles stephensi* in Africa.<sup>20</sup>
- 13. **Resistance to diagnostics and antimalarial drugs:** Parasite gene mutations have resulted in decreased sensitivity of diagnostic tests, while partial artemisinin resistance, confirmed in Rwanda, Uganda, United Republic of Tanzania and Eritrea and suspected in Ethiopia, Zambia, Namibia and Sudan, is reducing the efficacy of antimalarials. To address this threat, WHO launched a strategy to respond to antimalarial drug resistance in Africa, and is disseminating a guide on implementing multiple first-line therapies to slow down the spread of drug resistance. At least 10 countries<sup>21</sup> are being supported to assess the drivers of resistance and adopt policies to respond to the threat.
- 14. **Insufficient intersectoral and intrasectoral coordination among partners**: Fragmented and complex funding processes, misalignment of partner roles and competing domestic and global funding priorities have led to inefficiencies in resource utilization. Consequently, many partners recognize the need for a step change in how they operate, so as to reinvigorate progress and adopt a new positive narrative around malaria control, and mobilize a financing surge in the coming years.

#### **Actions proposed**

15. Member States should implement the following measures to galvanize action against malaria:

#### **Enhanced system strengthening efforts for programme resilience**

- (a) Strengthen health systems by supporting comprehensive capacity-building and retention of skilled health care workers, including community health workers, to ensure continuous access to diagnostic and treatment services at all levels, within the framework of quality, integrated, person-centred health services.
- (b) Strengthen supply chains for malaria commodities through pooled procurement systems, establish digital integrated logistics management systems and decentralize supply chain management systems to assure adequate and timely supply of essential commodities.

WHO initiative to stop the spread of *Anopheles stephensi* in Africa. (<a href="https://www.who.int/publications/i/item/WHO-UCN-GMP-2022.06">https://www.who.int/publications/i/item/WHO-UCN-GMP-2022.06</a>)

<sup>18 (</sup>https://cdn-auth-cms.who.int/media-aut/docs/default-source/malaria/world-malaria-reports/countries-reporting-confirmed-pyrethroid-resistance.pdf)

Ethiopia, Eritrea, Ghana, Kenya and Nigeria

Angola, Burkina Faso, Cameroon, Democratic Republic of the Congo, Eritrea, Mozambique, Rwanda, Sierra Leone, United Republic of Tanzania, Uganda

- (c) Invest in the deployment of efficient and reliable national health information systems, including analytics and geographic information system technologies, to support data-driven tailoring and targeting of interventions for greater impact and cost-efficiency.
- (d) Strengthen the capacities of existing national public health institutes by leveraging local capacities and public health emergency response mechanisms to detect, investigate and respond swiftly to malaria upsurges.
- (e) Adopt and implement insecticide resistance management strategies and guidelines to respond to antimalarial drug resistance, including strengthening institutional capacity to conduct surveillance and scale-up of dual-active-ingredient insecticide-treated nets and alternate insecticides for indoor residual spraying in resistance-prone regions.
- (f) Adopt and implement strategies and guidelines to respond to antimalarial drug resistance, such as strengthening institutional capacity to conduct surveillance of drug resistance, scale-up of preventive services, diversification of recommended antimalarials, and cross-border and regional collaboration.
- (g) Sustain and expand the roll-out of malaria vaccination within eligible vulnerable populations and support continued community engagement in the fight against malaria.
- (h) Strengthen country leadership in coordination and resource mobilization for malaria control by building on the momentum from the Malaria Ministerial Conference in Cameroon that led to the signing of the Yaoundé Declaration, and other multistakeholder initiatives such as the "Big Push" that aims to reinvigorate global malaria control by improving coordination and ensuring alignment of partners to support national priorities following the Lusaka Agenda.
- (i) Accelerate domestic resource mobilization through the promotion of national advocacy initiatives such as End Malaria Councils and Funds involving the private sector, to bridge financial gaps and ensure the efficient and effective use of funds.
- (j) Enhance surveillance to prevent malaria reestablishment in areas that may have interrupted malaria transmission.

#### Boost implementation of flagship multisectoral initiatives

- (a) Leverage existing flagships and initiatives such as the high burden to high impact initiative, the E-2025, Elimination 8 and the Sahel Malaria Elimination Initiative, <sup>22</sup> to strengthen malaria surveillance, cross-border collaboration, political engagement to eliminate malaria, institutional capacity strengthening, and resource mobilization for malaria response.
- (b) Provide strong leadership for multisectoral action by ensuring joint planning, effective implementation, monitoring, evaluation and accountability across sectors in the fight against malaria, ensuring that all at-risk populations consistently receive the appropriate tools, including populations living in hard-to-reach areas and conflict-affected humanitarian settings.
- (c) Build on the huge potential of malaria, socioenvironmental and climate data modelling to anticipate malaria outbreaks and leverage COVID-19 pandemic response systems to reinforce outbreak prevention, preparedness and response.

<sup>&</sup>lt;sup>22</sup> WHO; World Malaria Report 2023: Tracks progress toward elimination in E2025 countries (see Chapter 5).

#### 16. WHO and partners should:

## Enhance resource mobilization and technical assistance and support

- (a) Conduct a rigorous evaluation of current strategies to ensure interventions deliver the greatest health impact relative to their cost, and to accurately determine the resources needed to achieve malaria targets.
- (b) Mobilize sufficient resources as needed to deliver on WHO's mandate to lead and coordinate malaria stakeholders, disseminate global and regional normative and technical guidance, technical tools and services and support countries.
- (c) Provide technical assistance for comprehensive capacity strengthening of health workforce on malaria programme management, quality integrated person-centred health service delivery, and the use of innovative strategies and tools.
- (d) Facilitate the development and uptake of WHO guidelines, including regional frameworks, manuals and other technical products.
- (e) Support local manufacturing of antimalarials and regional pooled procurement initiatives to ensure a greater supply of affordable, quality-assured antimalarials.
- (f) Support the establishment of subregional resistance monitoring networks to track and act against emerging threats.
- (g) Work with relevant units within WHO to accelerate the prequalification of new vector control products and antimalarials.
- (h) Explore the application of novel tools such as Artificial Intelligence (AI) to enhance the prediction of malaria outbreak risks.

## **Enhanced coordination support**

- (a) Promote the systematic exchange of best practices among Member States by drawing from those that demonstrate exceptional progress.
- (b) Strengthen external coordination with humanitarian partners such as UNICEF, UNHCR and WFP and preposition malaria commodities in areas prone to conflict and those affected by disasters, ensuring integration of malaria services into emergency response systems.
- (c) Mobilize emergency resources and coordinate, in close collaboration with the WHO Health Emergencies Programme, cross-border responses for displaced communities affected by conflict and disasters, and promote intersectoral agreements to tackle humanitarian crises and climate-related drivers of malaria.
- (d) Support research and innovation by strengthening coordination and building partnerships in research and development for next-generation vector control tools, diagnostics, antimalarials and vaccines.
- 17. The Regional Committee is invited to consider the technical paper and adopt proposed actions.

### Annex: Efficacy and costs of malaria interventions

## **Key messages**

- 1. The gains made in malaria control and elimination over the past two decades, with about 2.2 billion cases and 12.7 million deaths averted, are a result of scaling up several interventions. These include the use of insecticide-treated bed nets (ITNs), indoor residual spraying (IRS), intermittent preventive treatment of malaria in pregnancy (IPTp), seasonal malaria chemoprevention (SMC), mass drug administration (MDA) in elimination settings, case management and surveillance.
- 2. WHO provides guidelines for malaria prevention and treatment strategies. These guidelines are based on rigorous evaluation of interventions considering their efficacy in reducing malaria morbidity and mortality, as well as their feasibility, acceptability and cost-effectiveness. The table shows average costs derived from systematic reviews, although actual costs may vary between countries, based on differences in delivery strategies and local costs.
- 3. The main information is as follows:
- (a) ITNs remain the most cost-effective strategy for malaria prevention in the general population.
- (b) **IRS has a higher efficacy** in reducing malaria cases compared to ITNs; however, its relatively high cost requires targeted deployment in selected high-burden areas, based on resource availability and emergency situations.
- (c) In areas with high seasonal malaria transmission, **seasonal malaria chemoprevention** can significantly reduce both malaria cases and deaths.
- (d) The impact of malaria vaccines is highest in medium to high transmission settings and decreases in lower-transmission settings. Currently, **the two approved malaria vaccines are recommended only in children below five years** of age, where their impact and cost-effectiveness are highest.
- (e) While the initial cost of the R21 vaccine is lower than that of RTS,S. Gavi has established a cofinancing policy for malaria vaccines to increase the affordability of both vaccines. Many Gavisupported countries will pay as little as US\$ 0.20 per dose for either vaccine.
- (f) Early diagnosis and treatment of malaria cases are essential components of health care as they prevent severe malaria and death, while saving substantial economic costs. Conversely, treatment of severe malaria remains very costly for both the affected populations and health services.
- 4. Combining different tools and strategies increases effectiveness and impact on malaria outcomes, but the choice of the intervention mix should be informed by local data and available resources.

Table 1. Efficacy and costs of malaria interventions

Intervention	Effect on morbidity	Effect on mortality	Population protected	Unit cost (US\$)	Assumption for impact	References
Insecticide treated bed net use (Vector control)	45% reduction in simple malaria cases 44% reduction in severe malaria	17% against all- cause mortality in children under 5 years old	Entire population covered with ITN	7.03 per ITN delivered (protects 2 people every 2-3 years)	Consistent use and type of ITN adapted to insecticide resistance profile	Pryce J et al. Insecticide-treated mosquito nets for malaria prevention. Cochrane Database Syst Rev. 2018;11:CD000363.  Lengeler C et al. Insecticide-treated mosquito nets and curtains for malaria prevention.  Cochrane Database Syst Rev. 2004;2:CD000363.
Indoor residual spraying (Vector control)	65% reduction in malaria incidence	NA	Target population covered with IRS	5.41 – 8.26 per person protected (every year)	Quality, timing and choice of insecticide	Zhou Y et al. Effectiveness of indoor residual spraying on malaria control: a systematic review and meta-analysis. Infect Dis Poverty 11, 83 (2022). <a href="https://doi.org/10.1186/s40249-022-01005-8">https://doi.org/10.1186/s40249-022-01005-8</a> PMI AIRS Project
Larval source management (Vector control)	18% reduction in malaria cases in areas where mosquito aquatic habitats are less than 1 Km <sup>2</sup>	NA	Population in habitats less than 1 Km <sup>2</sup>		Breeding sites must be few, fixed and findable	WHO Malaria Guidelines, 16 October 2023. Section 4.2.3: Chemoprevention of seasonal malaria. Geneva: World Health Organization
Seasonal malaria chemoprevention (SMC)	88% protective efficacy against clinical malaria within 28 days of treatment.	42% – 56% reduction in malaria mortality during the high transmission season	Children under five in SMC regions	6.6 per child for 4 rounds	Quality of delivery, timing, compliance in drug administration	Cairns M et al. Effectiveness of seasonal malaria chemoprevention (SMC) treatments when SMC is implemented at scale: Case-control studies in 5 countries. PLOS Medicine. 2021;18(9):e1003727.  WHO Malaria Guidelines, 16 October 2023. Section 4.2.3: Chemoprevention of seasonal malaria. Geneva: World Health Organization
Intermittent preventive treatment in pregnant women	14% reduction of low birth weight in high burden areas	Indirect positive effects on maternal mortality	Pregnant women and newborns	2.76 per administration of IPT per woman	Quality of delivery, timing, compliance in drug administration	Paintain L et al. Cost-effectiveness of intermittent preventive treatment with dihydroartemisinin-piperaquine versus single screening and treatment for the control of malaria in pregnancy in Papua, Indonesia: a provider perspective analysis from a clusterrandomised trial The Lancet Global Health, Volume 8, Issue 12, e1524 - e1533

Intervention	Effect on morbidity	Effect on mortality	Population protected	Unit cost (US\$)	Assumption for impact	References
Intermittent preventive treatment (IPTn)/ Perennial malaria chemoprevention	30% reduction in clinical malaria during the first year of life	Uncertain	Children below 2 years of age	0.68–2.27 for delivering IPTi doses up to 12 months	Choice of antimalarial, SP is most cost-effective	Multiply and Plus project Reports, 2025 Conteh L, Sicuri E, Manzi F, Hutton G, Obonyo B, Tediosi F, et al. (2010) The Cost- Effectiveness of Intermittent Preventive Treatment for Malaria in Infants in Sub-Saharan Africa. PLoS ONE 5(6): e10313. doi:10.1371/journal.pone.001031
Intermittent preventive treatment in school children	68% reduction in readmissions due to severe malaria	77% reduction in mortality	School children in target regions	May vary depending of choice of antimalarial	Adequate number of doses administered	WHO Malaria Guidelines, 16 October 2023. Section 4.2.4. Intermittent preventive treatment of malaria in school-aged children (IPTc). Geneva: World Health Organization; 2023.
Malaria vaccine (RTSS)	75% reduction in clinical cases when administered seasonally  22% reduction in hospitalized severe malaria cases	13% reduction in all-cause mortality	Children below 5 years of age	9.3 per dose	Timeliness and Number of doses administered	WHO Guide for introducing a malaria vaccine into national immunization programmes 2025 https://www.technet-21.org/en/resources/guidance/guide-for-introducing-a-malaria-vaccine-into-national-immunization-programmes
Malaria vaccine (R21)	75% reduction in clinical cases when administered seasonally	Maybe similar to RTSS	Children below 5 years of age	3.9 per dose	Timeliness and Number of doses administered	WHO Guide for introducing a malaria vaccine into national immunization programmes 2025 https://www.technet-21.org/en/resources/guidance/guide-for-introducing-a-malaria-vaccine-into-national-immunization-programmes
Treatment of uncomplicated malaria	ACTs used for treatment may reduce malaria transmission and overall morbidity	> 95%	All population	2.59 per person (test & treatment)	Timeliness of treatment, drug efficacy, patient compliance	WHO Malaria Guidelines, 16 October 2023. Section 4.2.4. Intermittent preventive treatment of malaria in school-aged children (IPTc). Geneva: World Health Organization; 2023.
Treatment for severe malaria	Uncertain	> 95% (varies)	All population	33.54 per person (test & treatment)	Impact on mortality depends on timeliness of treatment and severity of complications	WHO Malaria Guidelines, 16 October 2023. Section 4.2.4. Intermittent preventive treatment of malaria in school-aged children (IPTc). Geneva: World Health Organization; 2023.