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ACCELERATED MALARIA CONTROL: TOWARDS ELIMINATION IN THE AFRICAN REGION

Report of the Regional Director

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RESOLUTION

BACKGROUND

1. Africa is the continent most affected by malaria, accounting for 86% of the estimated 247 million malaria episodes and 91% of malaria deaths worldwide in 2006. Malaria also accounts for 25% to 45% of all outpatient clinic attendances and between 20% and 45% of all hospital admissions. Furthermore, it is estimated that malaria represents 17% of under-five mortality in the WHO African Region.[1]

2. In high endemic countries in the Region, it is estimated that malaria reduces economic growth by an annual average rate of 1.3%, mainly from absences from work or school.[2] The poorest people are most exposed to malaria and its complications because of inadequate housing, poor living conditions and limited access to health care.

3. Since 1991, several initiatives, resolutions and meetings have put malaria back at the top of the public health agenda.[3] In 1998, the Roll Back Malaria initiative was launched to advocate for and coordinate malaria control efforts aimed at halving the malaria burden by 2010. Roll Back Malaria progressively led to increased commitment to malaria prevention and control, culminating in the 2006 Abuja African Union Heads of State call for universal access to HIV/AIDS, tuberculosis and malaria services by 2010 and the call for malaria elimination. This was followed by the UN Secretary-General's call for 100% coverage of malaria control interventions by 2010.

4. Malaria control results from deliberate efforts to reduce the disease burden to a level where it is no longer a public health problem. Malaria elimination, for its part, is an interruption of local mosquito-borne malaria transmission in a defined geographic area.[4] Moving from malaria control to elimination should be seen as a continuum with the ultimate goal of interrupting malaria transmission.

5. The key malaria interventions are vector control using insecticide-treated nets (ITNs), indoor residual spraying (IRS), intermittent preventive treatment of malaria in pregnancy (IPTp) and effective treatment. Artemisinin-based combination therapy (ACT) is now the treatment of choice in 41 of the 43 malaria-endemic countries; 20 countries are implementing ACT country-wide. By the end of 2007, IPTp had been adopted in all the 35 endemic countries where it was recommended, and 20 countries are implementing IPTp country-wide.[5]

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[1] WHO, *World malaria report 2008*, Geneva, World Health Organization, 2008; WHO, *Africa malaria report 2006*, Brazzaville, World Health Organization, Regional Office for Africa, 2006; RBM/WHO/ UNICEF, *World malaria report 2005*, Geneva, World Health Organization 2005; WHO, *World health statistics*, Geneva, World Health Organization,2008.

[2] Gallup JL, Sachs J, The economic burden of malaria, *American Journal of Tropical Medicine and Hygiene* 64(1–2 Suppl): 85–96, 2001.

[3] WHO, Resolution AFR/RC50/R6, Roll Back Malaria in the African Region: a framework for implementation. In: *Fiftieth session of the WHO Regional Committee for Africa, Ouagadougou, Burkina Faso, 28 August–2 September 2000, Final report.* Brazzaville, World Health Organization, Regional Office for Africa, 2000, (AFR/RC50/17), pp. 19–22; WHO, Resolution AFR/RC53/R6, Scaling up interventions against HIV/AIDS, tuberculosis and malaria in the African Region, In: *Fifty-third session of the WHO Regional Committee for Africa, Johannesburg, South Africa, 1–5 September 2003, Final report.* Brazzaville, World Health Organization, Regional Office for Africa, 2003 (AFR/RC53/18), pp. 20–22; Resolution WHA58.2, Malaria control, Geneva, World Health Organization, 2003 (WHA58/2005).

[4] WHO, *Malaria elimination: a field manual for low and moderate endemic countries*, Geneva, World Health Organization, 2007.

[5] WHO, *The work of WHO in the African Region 2006-2007*, Brazzaville, World Health Organization, Regional Office for Africa, 2008.

6. Between 2000 and 2006, ITN distribution increased three- to ten-fold in most countries. Subsidized or free ITNs have increased bednet coverage. ITN distribution is often linked to antenatal care, routine immunization services and campaigns. By the end of 2007, 17 of the 43 malaria-endemic countries in the African Region were using indoor residual spraying as one of the key malaria control interventions, while six countries were pilot-testing IRS in a few selected districts.

7. A rapid decline in malaria burden is possible when a comprehensive package of malaria prevention and control interventions is implemented in the same geographic area at the same time as has been shown in Botswana, Eritrea, Ethiopia, Kenya, Rwanda, Sao Tome and Principe, South Africa and Swaziland.[6]

8. The purpose of this document is to give guidance to countries on how to accelerate implementation of malaria prevention and control interventions towards eventual elimination.

ISSUES AND CHALLENGES

9. Some countries do not have comprehensive policies and strategies to guide the scaling up of malaria control. The private sector is not usually engaged or involved during adoption of national policies for access to malaria prevention and treatment services. The long wait between policy adoption and implementation has delayed efforts to control the disease in many countries as shown, for example, by the wide gap between the adoption of artemisinin-based combination therapy policy and its actual country-wide implementation.

10. While access to any antimalarial medicine ranges from 10% to 63% for children under five years of age with fever, access to ACT for the same group has remained at only 3% in the 13 countries with data for 2006.[7] The continued use of artemisinin monotherapy, particularly in the private sector, remains a major setback, potentially contributing to the emergence of resistance and to the shortening of the useful therapeutic life of ACT.

11. Although progress has been made by countries in scaling up ITNs and IRS, many countries have not yet reached the internationally agreed targets. This is due to lack of capacity for large-scale IRS campaigns. As a result, in 2006, only five African countries reported IRS coverage sufficient to protect at least 70% of people at risk of malaria. By the end of 2007, 34% of households in 18 countries of the African Region owned at least one ITN. However, there is a gap between ownership and effective use of ITNs which needs to be addressed through operational research. While uptake of the first dose of intermittent preventive treatment of malaria for pregnant women ranges from 23% to 93%, coverage for the second dose is still low and ranges from 5% to 68%.[8] The challenge is to ensure that all pregnant women take their recommended doses of IPTp and also that all households with ITNs use them.

12. Malaria treatment is characterized by gross over-diagnosis and over-treatment. Studies have shown that 32% to 96% of febrile patients receive antimalarial treatment without parasitological diagnosis. In some cases it has been shown that only 30% of febrile patients receiving ACT are proven to have malaria.[9] Such improper diagnostic practices undermine the correct management of

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[6] WHO, *World malaria report 2008*, Geneva, World Health Organization, 2008.
[7] WHO, *World malaria report 2008*, Geneva, World Health Organization, 2008.
[8] WHO, *Roll Back Malaria—Global malaria action plan*, Geneva, World Health Organization, 2008.
[9] Hamer DH et al, Improved diagnostic testing and malaria treatment practices in Zambia, *Journal of the American Medical*

malaria and non-malarial fevers.

13. Although many endemic countries have established national malaria control programmes, there is inadequate human resource capacity at all levels to ensure efficient utilization of resources available for scaling up the various interventions. Weak health information systems also make it difficult to report on programme performance and impact.

14. Despite the increased inflow of external resources, inadequate funding for malaria control is still an issue. By the end of 2008, none of the malaria-endemic countries had fulfilled the Abuja commitment to allocate 15% of government expenditure to the health sector. Resources from African governments represent only 18% of the US$ 622 million disbursed in 2007.[10] Furthermore, many countries have difficulties accessing international funds, or managing them appropriately where they are available.

15. The prevailing socioeconomic environment in sub-Saharan Africa further compounds the malaria situation. Poor households in malaria-endemic countries spend significant proportions of their income on malaria treatment, which pushes them further into poverty. The ongoing climate change related to global warming could further expand malaria transmission areas and put more people at risk.[11]

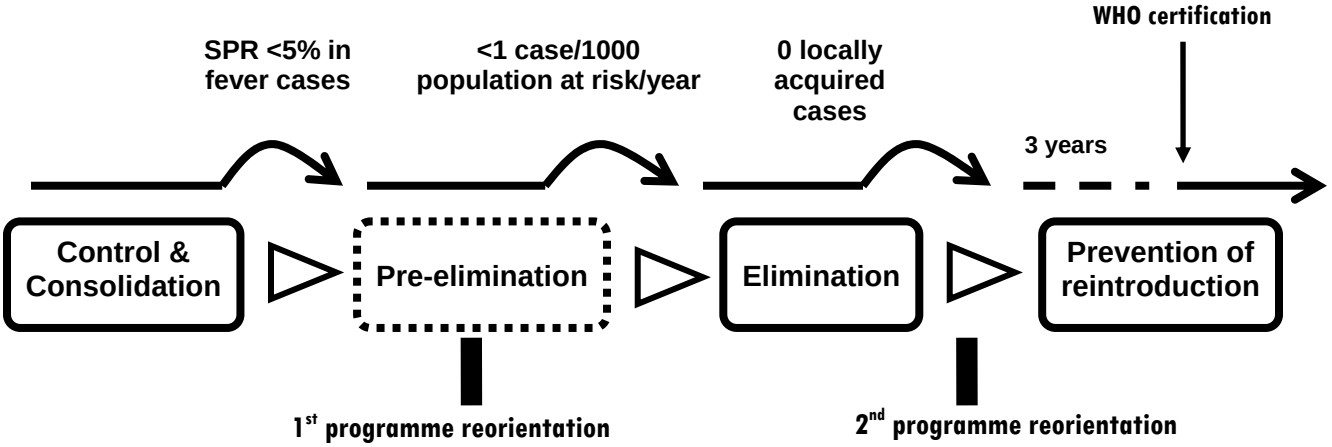
16. Global and regional political commitment has led to increased interest in malaria elimination in the African Region. Figure 1 shows malaria programme phases and transitions from control to elimination. Countries in stable transmission areas should complete the consolidation phase before engaging in stepwise reorientation of the programme to pre-elimination and then elimination and prevention of reintroduction as per the milestones shown.

Association 297: 2227–2231, 2007; Amexo M et al, Malaria misdiagnosis: effects on the poor and vulnerable, *Lancet* 364: 1896–1898, 2004; Reyburn H et al, Overdiagnosis of malaria in patients with severe febrile illness in Tanzania, *British Medical Journal* 329:1212, 2004; Zurovac D et al, Microscopy and outpatient case management among older children and adults in Kenya, *Tropical Medicine & International Health* 11: 1185–1194, 2006; WHO, *World malaria report 2008*, Geneva, World Health Organization 2008.

[10] WHO, *World malaria report 2008*, Geneva, World Health Organization, 2008.

[11] Thomson MC et al, Malaria early warnings based on seasonal climate forecasts from multi-model ensembles, *Nature* 439: 576–579, 2006; Teklehaimanot HD et al, Weather-based prediction of Plasmodium falciparum malaria in malaria epidemic prone regions of Ethiopia, I. Patterns of lagged weather effects reflect biological mechanism, *Malaria Journal* 3: 41, 2004.

Figure 1: Malaria programme phases and milestones on the path from control to elimination in a country or area with low to moderate endemicity



SPR - slide or rapid diagnostic test positivity rate
These milestones are only indicative: in practice, the transition will depend on the malaria burden that the programme can realistically handle, including case notification, case investigation etc.

Source: adapted from WHO, Malaria elimination: a field manual for low and moderate endemic countries, Geneva, World Health Organization, 2007.

17. All malaria-endemic countries in the African Region are in the control phase but lack reliable data to enable them proceed to programme reorientation. Weak health systems in most moderate and low transmission settings in the Region need to be strengthened in order to cope with the demands of an elimination programme. A major challenge is posed by the large asymptomatic reservoir coupled with high vector capacities in many sub-Saharan countries. Currently, malaria control relies on a limited number of insecticides and medicines for prevention and treatment.[12] Resistance to some insecticides and medicines has already occurred. Therefore, global elimination of malaria is likely to require research and development of new biomedical tools, operational research, behaviour change and adjustment of existing interventions to meet country-specific requirements.

18. In many countries there is an increasing number of partners investing in malaria control; however, coordination is still a major challenge. In many instances, fragmented implementation of malaria control is a consequence of project-based approaches.

19. Significant progress has been made thanks to the opportunities offered by high-level political commitment and the increased resources from various partners such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, the World Bank Booster Programme, the US President's Malaria Initiative, the Affordable Medicines Facility for malaria (AMFm), and the Bill and Melinda Gates Foundation. However, important issues and challenges remain at national and international levels. Various actions to address these issues and challenges are needed for countries to accelerate the scaling up of malaria elimination in the African Region.

[12] WHO, *Global malaria control and elimination: report of a technical review*, Geneva, World Health Organization, 2008.

ACTIONS PROPOSED

20. **Update malaria policies and strategic plans.** Where required, the national health policy should be updated and correctly implemented. It is important to undertake comprehensive country programme reviews in order to identify the gaps between the targets and the current situation; it is also necessary to assess the interventions and resource gaps in order to minimize the time lag between planning and implementation. Health system bottlenecks should be identified and addressed in order to accelerate and scale up programme implementation.

21. **Strengthen national malaria control programmes.** The structures of national malaria control programmes should be based on the national health strategic plan, human resource strategic plan and the local epidemiological setting. It is important to ensure that enough financial resources are provided so that key functions related to programme management, planning, partnerships, resource mobilization, case management, integrated vector management, surveillance, monitoring and evaluation, procurement and supply management, and community-based interventions are carried out. Countries should decentralize their programmes to ensure appropriate flow of resources and work towards appropriate integration at the operational level.

22. **Procure and supply quality antimalarial commodities.** Countries should ensure uninterrupted availability of quality, affordable malaria medicines and commodities while avoiding stock-outs by implementing adequate procurement and supply-chain management systems. This can be done by strengthening quantification, forecasting, acquisition, stock and logistics management, distribution, quality assurance, appropriate use, information system management, and pharmacovigilance, involving both the public and private sectors in the context of existing national systems for essential medicines and health technologies procurement and management.

23. **Accelerate the delivery of key interventions for universal coverage and impact.** Countries should ensure that a comprehensive package of interventions is progressively implemented nation-wide for impact. Interventions for prevention include long-lasting insecticide-treated nets (LLINs), indoor residual spraying (IRS) **using an integrated vector management approach** and intermittent preventive treatment **of malaria** in pregnancy (IPTp). Interventions for case management are parasitological diagnosis and effective treatment. Quality control and assurance systems for microscopy and rapid diagnostic tests (RDTs) must also be ensured. The interventions should be delivered free-of-charge or at an affordable cost through health facilities and community structures and integrated with other programmes. Community involvement is critical for accelerating implementation of proven interventions. Where effectively implemented, community-based interventions including appropriate use of case management guidelines and algorithms contribute significantly to the scaling up of interventions.

24. **Consolidate malaria control achievements in high endemic countries**. Areas which were formerly of high stable transmission and which achieve a marked reduction in the burden of malaria should have a consolidation period before embarking on pre-elimination if their slide positivity rates are less than 5%. Cross-border collaboration should be promoted and supported by regional economic communities and partners to maximize impact.

25. **Move from control to pre-elimination and elimination when appropriate.** In some countries natural conditions or control efforts have reduced the risk of malaria transmission to low levels and have localized unstable transmission in well-defined areas. Such countries should conduct

comprehensive malaria programme reviews followed by programme reorientation to pre-elimination. In the pre-elimination phase, the surveillance system should be adapted to detect and respond to all malaria outbreaks by active case detection, parasitological diagnosis, effective treatment and focal vector control.

26. **Strengthen surveillance, monitoring and evaluation.** There is need to strengthen malaria surveillance in the routine work of health information systems and integrated disease surveillance and response, including reporting confirmed malaria cases. The surveillance, monitoring and evaluation systems should use the health information system as the main source of data, complemented by surveys. Drug efficacy and insecticide susceptibility tests should be performed annually to enable timely identification of resistance as well as the necessary actions and policy decisions.

27. **Scale up partnership coordination and alignment as well as resource mobilization.** Partner coordination and alignment using the established mechanisms should be strengthened at country, regional and global levels to avoid duplication of efforts and to improve efficiency. Strong advocacy for increased and sustained funding as well as effective and efficient use of existing resources to fill existing gaps needs to be maintained at all levels for sustainable impact on malaria. To maximize resources and to address the socioeconomic determinants of health, the fight against malaria should be linked to poverty alleviation programmes.

28. **Strengthen malaria research.** For countries in the control phase, operational research, including behavioural aspects should focus on the best approaches and tools to quickly deliver and sustain the main interventions at community and health facility level. For countries which have achieved sustained impact, operational research should focus on the technical and financial feasibility of moving to pre-elimination and elimination. Countries and partners should advocate for operational research to expand the knowledge base as well as research and development for new tools.

29. The Regional Committee is invited to examine and endorse the actions proposed in this document and adopt the draft resolution attached.

AFR/RC59/R3
4 September 2009

ORIGINAL: ENGLISH

RESOLUTION

ACCELERATED MALARIA CONTROL: TOWARDS ELIMINATION IN THE AFRICAN REGION

The Regional Committee,

Having examined the document entitled "Acceleration of malaria control: towards elimination in the African Region'';

Recalling Regional Committee Resolution AFR/RC50/R6 on Roll Back Malaria in the African Region: a framework for implementation; the 2000 and 2006 Abuja OAU and AU Summits' commitments on HIV and AIDS, tuberculosis and malaria; Resolution AFR/RC53/R6 on scaling up interventions against HIV/AIDS, tuberculosis and malaria; Resolutions WHA58.2 and WHA60.18 on malaria control and establishment of Malaria Day and the UN Secretary-General's 2008 Malaria Initiative which called for universal access to essential malaria prevention and control interventions;

Aware of the persisting heavy burden of malaria in the African Region and its devastating consequences on health and socioeconomic development;

Recognizing that lack of evidence-based policies, comprehensive strategies, delays in implementation, weak health systems and inadequate human resource capacity negatively influence programme performance;

Mindful of the fact that coordination and harmonization of partner activity for resource mobilization and efficient utilization are critical for national and regional performance in malaria control;

Aware that scaling up cost-effective interventions [Long Lasting Insecticidal Nets (LLINs), Indoor Residual Spraying (IRS), Intermittent Preventive Treatment of malaria in pregnancy (IPTp), Artemisimin-based combination therapies (ACTs)] for universal coverage results in a critical reduction of the malaria burden and that malaria control currently relies on a limited number of tools;

Confirming the usefulness and effectiveness of IRS using DDT as a major intervention for malaria control within the provisions of the Stockholm Convention;

Acknowledging the invaluable support received from multilateral and bilateral cooperation partners, foundations, malaria advocates and community-based organizations;

Analyzing the new opportunities provided at the international level to control and eliminate malaria [the UN, AU, World Economic Forum, GFATM, Affordable Medicines Facility for malaria (AMFm), the World Bank Booster Programme, the US President's Malaria Initiative (US/PMI), the Bill and Melinda Gates Foundation];

1. ENDORSES the document entitled 'Accelerated malaria control: towards elimination in the African Region';

2. URGES Member States:

(a) to integrate malaria control in all poverty reduction strategies and national health and development plans in line with the commitments of UN, AU and regional economic communities and mobilize local resources for sustainable implementation and assessment of the impact of accelerated malaria control;

(b) to support health systems strengthening including building of human resource capacity through pre- and in-service training for scaling up essential malaria prevention and control interventions;

(c) to support ongoing research and development initiatives for new medicines, insecticides, diagnostic tools and other technologies for malaria control and elimination and invest in operational research for informed policy and decision making in order to scale up and improve programme efficiency for impact;

(d) to strengthen the institutional capacity of national malaria programmes at central and decentralized levels for better coordination of all stakeholders and partners in order to ensure programme performance, transparency and accountability in accordance with the 'Three Ones' principles;

(e) to lead joint programme reviews, develop comprehensive need-based and fully-budgeted strategic and operational plans with strong surveillance, monitoring and evaluation components;

(f) to strengthen health information systems, integrated disease surveillance and response and undertake appropriate surveys in order to generate reliable evidence, facilitate translation of knowledge into successful implementation and inform programmatic transitions;

(g) to invest in health promotion, community education and participation, sanitation, and increase human resource capacity with emphasis on mid-level and community health workers for universal coverage of essential interventions using integrated approaches;

(h) to ensure rigorous quantification, forecasting, procurement, supply and rational use of affordable, safe, quality-assured medicines and commodities for timely and reliable malaria diagnosis and treatment at health facility and community levels;

(i) to develop cross-border malaria control acceleration initiatives based on proven cost-effective interventions and taking into account existing subregional mechanisms;

3. REQUESTS partners involved in supporting malaria control efforts in the Region to increase funding for malaria control in order to reach the UN targets of universal coverage, reduce malaria deaths to minimal levels, and achieve health-related Millennium Development Goals to which malaria control contributes;

4. REQUESTS the Regional Director:

(a) to facilitate high-level advocacy, coordination of partner action in collaboration with the UN, RBM, other partner institutions, the AU and regional economic communities for adequate resource mobilization and efficient technical cooperation;

(b) to support the development of new tools, medicines, applied technologies and commodities and help revitalize drug and insecticide efficacy monitoring networks;

(c) to report to the sixty-first session of the Regional Committee, and thereafter every other year, on the progress made in the implementation of accelerated malaria control in the African Region.

Ninth meeting, 2 September 2009