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Policy brief on improving access to artemisinin-based combination therapies for malaria control in Ethiopia

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THE PROBLEM

Malaria in Ethiopia is one of the leading causes of death (21.8 percent), consultation in outpatient departments (17.8 percent) and hospital admissions (14.1 percent) (2;14). To overcome this problem, the Malaria Control Program (Federal Ministry of Health) has designed a community-based malaria treatment approach that played key roles in malaria epidemic control and community mobilization as well as vector control operations. In this approach, Community Health Workers (CHWs) and Village Malaria Workers, volunteers selected by community and trained on malaria diagnosis and treatment as well as indoor residual spray for few days (16). However, sustainability of this approach has been a challenge to the malaria control program. Thus, institutional arrangements in which every Kebele (the smallest administrative unit of 5,000 people) has a health post staffed by two Health Extension Workers (HEW) as part of the country's health system is a breakthrough to strengthen malaria control. A study has shown that more than half of the patients with fever visit CHWs and private health facility services (4).

In Ethiopia, unlike in many parts of Africa, *Plasmodium vivax* accounts for 30–40 percent of the confirmed malaria cases reported annually (8;14;17). This makes confirmation of cases crucial to render appropriate and effective malaria treatment at health facilities, including health posts. For the treatment of *P. vivax*, chloroquine is still effective and widely used (7;13;15). The provision and scaling up of artemisinin-based combination therapies (ACTs) along with rapid diagnostic tests (RDTs) at the village level in Ethiopia has been implemented through HEWs over the past 3 years. There are now more than 30,000 HEWs with formal basic primary health care training deployed throughout the country. Two HEWs are assigned for every 5,000 people, and they are fully integrated with the health system as part of the regular workforce (11;16).

Low health service utilization and inadequate diagnosis and treatment of malaria could be attributed to the following: (i) Many malaria cases are treated outside the formal health sector, for example, in shops and open markets, and given ineffective non-ACT treatments; (ii) Private pharmacies and drug stores may sell counterfeit artemisinin-based combination therapies (ACTs), as ACT price is high and not widely available; (iii) There is inadequate follow-up and supportive supervision of HEWs generally, and particularly for malaria prevention and control (10). As a consequence, accurate diagnosis with RDTs and recognition of the clinical symptoms of malaria is often not adequate; (iv) Supportive supervision to strengthen disease management and diagnosis with RDTs by both HEWs and health facilities has not been well coordinated; (v) There are not adequate mechanisms and systems for quality assurance of malaria microscopic diagnostic procedures by health facilities or diagnostic procedures by HEWs using RDTs; (vi) Community initiatives to improve awareness and health seeking behavior through HEWs (or other means) are not widely implemented; and

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Table 1. Policy Options

Policy option	Reschedule artemisinin-based combination therapies (ACTs) to be over-the-counter	Engage the private sector	Follow-up and supportive supervision of health extension workers (HEWs)
Description	• Establish distribution system to supply private pharmacies • Establish payments to private pharmacies for sale of ACTs • Regulation to ensure appropriate use of ACT by drug sellers	• Government contracting with private organizations • Regulation to ensure appropriate use of ACT by practitioners • Fixed price for ACTs • Establish regulatory mechanisms, capacity, and organizational structures • Establish quality assurance for malaria diagnosis (species confirmation in light of malaria elimination strategy) • Ensure appropriate profits for retailers	Federal level • Policies, financing, development of materials • Training of regional trainers • Monitoring and evaluation Regional level • Training of trainers Woreda (local level) • Training of HEWs • Providing refresher courses and arrange a feed-back system that mainly assist in sustaining the program
Advantages	• Increased accessibility and affordability	• Private sector would increase access to effective ACTs	• Increased self-reliance of HEWs and trust of users • Improved quality of health care
Disadvantages	• Over-treatment of unconfirmed cases and misuse of drugs • Might result in higher risk of drug resistance due to non-compliance to the regimen	• Would require intensive negotiation with the for-profit private sector in setting the profit margin • Quality of diagnosis and treatment uncertain	• Program may be difficult to sustain • Changes in the organizational structure of the program may be difficult to implement • Impacts may take time and be difficult to measure, and this may affect government commitment • Implementation capacity of regions varies
Cost	• High costs for subsidies of ACTs • Managerial costs would increase	• Training and managerial costs would increase	• A substantial increase in funding would be needed compared to present the situation
Acceptability	• Drug regulatory authorities may be opposed in a bid to safeguard risk of misuse of the ACTs	• Cost of ACTs is still high and efforts to reduce price through negotiation with manufacturers may not succeed and the price for ACTs in the private for-profit sector may remain high	• Supervision may not be accepted by HEWs since it was not part of the program from the beginning

(vii) Although there are now more than 2,000 private clinics and pharmacies across the country, the role of the private health sector and reporting mechanism is not explicitly defined in the current national malaria diagnosis and treatment guideline. Working with the private sector has a large potential in scaling up and achieving universal access to ACTs, if done properly.

POLICY OPTIONS

Three policy options that could improve access to ACTs are as follows: (i) rescheduling ACTs to be over-the-counter, (ii) engaging the private sector, and (iii) follow-up and supportive supervision of HEWs. These three options are described in Table 1.

Home-based malaria treatment as part of the malaria control strategy in Ethiopia was challenged with the shift to ACTs in 2004 (15). Evidence of treatment-seeking behavior of malaria patients because the switch to ACTs is limited. However, previous studies found that a considerable portion of the population practiced self-treatment of malaria in rural areas (5). Thus, it is particularly important to improve access to ACTs in these areas. Another study before the switch to ACTs found a major reduction in under-5 years of age mortality through teaching mothers to provide home treatment (9). A study in northern Ethiopia supported by WHO and Novartis evaluated the effect of deployment of ACTs with simple RDTs at the community level. The results were promising, especially for the rural poor who live far away from a clinic or health post (6). Scaling up of home-based management of malaria has also been found to be feasible and effective in other settings (12;18).

Rescheduling ACTs to Be Over-the-Counter

Allowing over-the-counter sales of ACTs and increasing the number of licensed private pharmacies combined with training private drug retailers and purchasers could improve the

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Table 2. Implementation of the Policy Options

Policy option	Reschedule artemisinin-based combination therapies (ACTs) to be over-the-counter (18)	Engage the private sector	Follow-up and supportive supervision of health extension workers (HEWs)
Barriers to implementation	• Increasing the peripheral distribution of antimalarial drugs without parasitological diagnosis may promote the development of anti-malarial drug resistance • Inappropriate use of ACTs • Resistance of health professionals and pharmacists • Shortages of ACTs	• May not be attractive in terms of profit margins • Provision of subsidies in the private for-profit sector • Cost • Enforcement of regulation • Need for a legal framework • May be controversial due to competing values (free market versus regulated market)	• Motivation of HEWs • Trust in HEWs • Need for substantial investment of time and resources
Strategies for implementation	• Training of pharmacists • Patient education • Packaging and labelling of ACTs • Staggered roll-out • Monitoring and evaluation	• Training of private providers • Patient education • Pre-packaging of interventions to improve adherence • Negotiation of contracts • Staggered roll-out • Monitoring and evaluation	• Cascading system that has been used effectively in the past • Distribution of guidelines and job-aids such as printed material that guide malaria diagnosis and treatment • Onsite supportive supervision • Monitoring and evaluation • Refresher courses

availability of ACTs and effective early presumptive treatment for childhood fevers (1).

Engaging the Private Sector

A considerable number of patients seek malaria treatment from private clinics (6;16). Not providing the private sector with ACTs has created an environment that is conducive to the distribution and marketing of ineffective and counterfeit drugs. Engaging the private sector by allowing ACTs to be prescribed and then dispensed in public health facilities; and subsidizing the drug price for those institutions that can dispense the drugs would also contribute to early treatment and scaling up the use of ACTs.

Follow-up and Supportive Supervision of HEWs

The Health Extension Program (HEP) in Ethiopia provides a package of basic and essential preventive and curative health services targeting households in a community. The aim is to improve families' health status with their full participation, consistent with the principles of primary care laid out in the Alma Ata Declaration (3). The objectives or the program of HEP are to improve access and equity in essential health services provided at the village and household levels (16). Malaria treatment is included as part of the program. Effective malaria treatment requires a correct diagnosis and patients' adherence to treatment. Supportive supervision, including monitoring and evaluation of the quality of care, and promoting awareness in the community could improve appropriate delivery and utilization of ACTs by HEWs, especially in rural areas (19).

IMPLEMENTATION OF THE POLICY OPTIONS

Barriers to implementing the three policy options and strategies for addressing these are described in Table 2.

DISCUSSION

The policy brief summarized here was a result from a 3-day meeting convened in Addis Ababa, Ethiopia, February 18–22, 2008, at the Ethiopian Health and Nutrition Research Institute (EHNRI). The policy actions proposed were widely discussed and agreed among relevant experts in the Federal Ministry of Health and Malaria National Program Officers at the WHO Country Office and other stakeholders. The proposed policy actions, particularly the action related to increasing access to malaria diagnosis and treatment services through trained CHW, has been pilot tested, and there is a great deal of information that will help implement this action. Improving access to effective ACTs over-the-counter at affordable prices, efforts to strengthen the role of the private sector, and strengthening follow-up and supportive supervision of HEW are the other three policy actions that are planned to be implemented.

It is believed that there are sufficient in-country resources from existing Global Fund to Fight Aids, Tuberculosis, and Malaria malaria grants (Round 5 and Round 8) and from other partners to support the initial launch of these policy actions. To further strengthen the resources required for the full implementation of these policy actions, the Federal Ministry of Health will coordinate the essential actions.

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