

# Policy brief on improving access to artemisinin-based combination therapies for malaria in the East African community

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## THE PROBLEM

The World Health Organization (WHO) since June 1998 has advocated for the use of artemisinin-based combination therapies (ACTs) in countries where *Plasmodium falciparum* malaria is resistant to traditional antimalarial therapies such as chloroquine, sulfadoxine-pyrimethamine, and amodiaquine (19;22). In 2006, WHO released evidence-based guidelines for the treatment of malaria backed by findings from various scientific studies (21). During the period between 2002 and 2006, all the five East African states Tanzania, Kenya, Uganda, Rwanda, and Burundi changed their national antimalarial treatment policies to use ACTs as first-line treatments for uncomplicated falciparum malaria and commenced with deployment of the drugs in the state-managed health facilities (12–15). To scale up the use of ACTs in the East African region to combat malaria and speed up progress toward the sixth Millennium Development Goal, a combination of delivery, financial, and governance arrangements tailored to national or subnational contexts needs to be considered.

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WHO reports show that more than 90 percent of the annual global malaria cases and deaths are reported from the African region (20). Children under the age of 5 years and pregnant mothers are the most vulnerable groups affected by the disease. Malaria's annual contribution to deaths in under-5 year olds is as high as 39,000 in Uganda, 31,000 in Tanzania and 18,000 in Kenya (23).

Community health workers (CHWs) have successfully contributed to public health services in the fight against malaria. The CHW kits for home-based management of fever at present still contain older antimalarials in Uganda and Tanzania. Rwanda does not have a CHW network, whereas Kenya has incorporated ACTs to be used at community level by CHWs.

The private sector provides health services to a large proportion of the population in East Africa through faith-based organizations and other not-for-profit organizations, as well as for-profit facilities (6). The cost of ACTs at these outlets is still quite high (between US\$5 and US\$15 per adult treatment course) compared with the free ACTs provided by public facilities. Samarasekera highlights the need for a stronger regulatory framework by government to oversee the private sector in provision of health-related services and products (17).

**Table 1.** Policy Options

Policy option	Home-based management of fever (HBMF) with artemisinin-based combination therapies (ACTs)	Working with the private sector to support ACT use	Health system financing
Description	<ul style="list-style-type: none"> <li>● Increase number of community health workers (CHWs)</li> <li>● Training of CHWs</li> <li>● Provide ACTs in home-based kits</li> </ul>	<ul style="list-style-type: none"> <li>● Provide ACT subsidies and tax-incentives to the private sector</li> <li>● Train private practitioners about approved ACT use</li> <li>● Enforce regulations regarding appropriate ACT use</li> </ul>	<ul style="list-style-type: none"> <li>● Social health insurance (SHI)</li> <li>● Community-based health insurance (CHI)</li> </ul>
Advantages	<ul style="list-style-type: none"> <li>● Home-based management of malaria improves outcomes with prompt treatment using pre-packaged drugs (24)</li> <li>● CHWs reduce death and disability in children under five (11)</li> <li>● ACTs can be successfully incorporated in the HBMF strategy (8)</li> </ul>	<p>Waters and colleagues describe options for how governments can work with the private sector to promote health interventions, although there is little evidence of their effects (18). These include:</p> <ul style="list-style-type: none"> <li>● Subsidies and tax incentives</li> <li>● Regulation of the private sector with inspection of facilities and sanctions</li> <li>● Training of private providers</li> </ul> <p>A pilot study by the Clinton Foundation in rural Tanzania showed that</p> <ul style="list-style-type: none"> <li>● Subsidising ACTs improved access (3)</li> </ul>	<ul style="list-style-type: none"> <li>● The case for malaria treatment is an entry point for advocating system-wide changes to provide universal coverage</li> <li>● SHI can provide a sustainable, predictable self-reliant source of revenue for health care</li> <li>● No systematic reviews on effects of SHI were identified. However, the design and implementation of SHI is likely to determine efficiency (9)</li> <li>● CHI can improve resource mobilization, reduce out-of-pocket expenditures and protect against catastrophic health expenditures (2;4;10;16)</li> <li>● SHI could enhance social inequity if used alone as most of the population is in the informal sector.</li> <li>● CHI due to its voluntary nature has risks of pool fragmentation, lower subscription, and adverse selection where mostly the sick would subscribe making the scheme financially untenable (10)</li> <li>● The poorest of the poor often cannot afford even low premiums</li> </ul>
Disadvantages	<ul style="list-style-type: none"> <li>● Minimum negative effects with ACTs were recorded in the studies cited above</li> </ul>	<ul style="list-style-type: none"> <li>● Harms from the ACT Subsidy Project (9) included under-representation of older children for anti-malarial purchases and potential inequity from higher socioeconomic classes accessing drug shops more frequently than poorer classes</li> </ul>	<ul style="list-style-type: none"> <li>● CHI could enhance social inequity if used alone as most of the population is in the informal sector.</li> <li>● CHI due to its voluntary nature has risks of pool fragmentation, lower subscription, and adverse selection where mostly the sick would subscribe making the scheme financially untenable (10)</li> <li>● The poorest of the poor often cannot afford even low premiums</li> </ul>
Cost	<ul style="list-style-type: none"> <li>● Considerable financial costs with scaling up of ACTs nationally</li> <li>● Training and supervision of CHWs</li> <li>● Licensure of CHWs to prescribe ACTs</li> </ul>	<ul style="list-style-type: none"> <li>● There is a lack of evidence on the costs of these strategies</li> </ul>	<ul style="list-style-type: none"> <li>● Financial implications for employers, workers, and government</li> <li>● Training of human resources in insurance management</li> <li>● Extensive country-wide network of health facilities</li> </ul>
Acceptability	<ul style="list-style-type: none"> <li>● The poor, rural public would find this option highly acceptable as services are closer to home</li> </ul>	<ul style="list-style-type: none"> <li>● The general public and the private healthcare sector would welcome most of these changes, particularly with regards to reducing procurement costs</li> </ul>	<ul style="list-style-type: none"> <li>● Consideration of health insurance could become politicized, obscuring an objective assessment; particularly of SHI, which is mandatory</li> </ul>

## POLICY OPTIONS

The policy options described in this policy brief are not mutually exclusive interventions; they are complementary strategies in the fight against malaria. The policy brief does not recommend any one option over another, but highlights existing research evidence in support of the included interventions. The three options are the following: (i) Include ACTs in the home-based management provided by Commu-

nity Health Workers (CHWs). CHWs are normally recruited from members of the community, such as mothers, farmers, teachers, and others. CHWs are much more accessible than healthcare professionals, particularly in rural areas where there are fewer and poorly equipped healthcare facilities; (ii) Engage the private sector in distributing ACTs in accordance with standard treatment guidelines, and ban importation and prescribing of artemisinin monotherapies; (iii) Improve health sector financing and universal access to healthcare by

**Table 2.** Implementation of the Policy Options

Policy option	Home-based management of fever (HBMF) with artemisinin-based combination therapies (ACTs)	Working with the private sector to support ACT use	Health system financing
Barriers to implementation	<ul style="list-style-type: none"> <li>• Selection criteria for recruitment of community health workers (CHWs) in countries that do not have an existing network</li> <li>• Training costs</li> <li>• Motivational incentives for CHWs</li> <li>• Leadership and supervision</li> <li>• Increase in ACT procurement to meet increased demand</li> <li>• Pharmacovigilance</li> <li>• Licensure of CHWs to dispense ACTs (5)</li> <li>• Public awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Financial costs to governments for subsidies and tax-incentives</li> <li>• Resistance from private sector with conflicting interests; e.g. importers</li> <li>• Corruption; e.g. importers overcharging for ACTs despite government subsidies</li> <li>• Training costs for private health providers about approved ACT use</li> <li>• Inspection of private facilities and enforcement of sanctions on defaulters</li> <li>• Public awareness</li> </ul>	<p><i>Common barriers for social health insurance (SHI) and community-based health insurance (CHI)</i></p> <ul style="list-style-type: none"> <li>• Financial costs to employers, workers and governments</li> <li>• Adequate widespread health infrastructure</li> <li>• Adequate human resources in insurance management</li> <li>• Large informal economy</li> <li>• Lack of social solidarity</li> <li>• Public awareness</li> </ul> <p><i>Specific barriers for CHI</i></p> <ul style="list-style-type: none"> <li>• Insurance pool fragmentation</li> <li>• The poorest populations cannot afford even the low premiums.</li> <li>• Adverse selection; i.e., CHI is not mandatory, therefore, the sick are more likely to subscribe, making the schemes untenable</li> <li>• Lower subscription rates due to voluntary nature of CHI schemes</li> </ul>
Strategies for implementation	<ul style="list-style-type: none"> <li>• Use of mass media for public awareness and education for all three options</li> <li>• Some East African countries, such as Uganda, have a pre-existing CHW network and selection criteria for recruitment of CHWs could be modified</li> <li>• Resource mobilization for training of CHWs and procurement of ACTs could make use of existing funds such as the Global Fund to fight Malaria, TB, and HIV; and the Gates Foundation</li> <li>• Use of existing structures and personnel at the lowest functioning health facility level for supervision of CHWs and pharmacovigilance</li> <li>• Motivational incentives such as bicycles for transportation, small commissions on each ACT pack dispensed, small sustainable allowances for CHWs</li> <li>• Amend regulations to permit ACT administration by CHWs</li> </ul>	<ul style="list-style-type: none"> <li>• Governments could make use of existing initiatives to fund the subsidies and training programs such as the Affordable Medicines Facility-malaria (a global subsidy to increase access to ACTs), the Global Fund, and the Clinton Foundation</li> <li>• Use of a “suggested retail price” printed on drug packaging was found to prevent price inflation and variation in the intervention areas in the ACT Subsidy Project (3)</li> </ul>	<p><i>Specific to CHI</i></p> <ul style="list-style-type: none"> <li>• Management support could be subcontracted to an umbrella organization with merging of several CHI schemes to increase purchasing power</li> <li>• Government could integrate CHI schemes into a SHI scheme to increase risk sharing across the population</li> <li>• To reduce inequities government subsidies can be targeted at the poorest of the poor, who are otherwise unable to pay premiums</li> </ul>
Evidence	<p>In a high quality systematic review, Grilli and colleagues (7) found that health messages in the mass media can promote desirable health behaviors among healthcare practitioners as well as the general public. Higher income groups have better access to media such as television, radio, and the Internet, and are more likely to benefit from this exposure than lower income groups. This could increase inequities. This strategy is well accepted, but there may be considerable financial cost for sustained campaigns</p>		

**Table 2.** Continued

Policy option	Home-based management of fever (HBMF) with artemisinin-based combination therapies (ACTs)	Working with the private sector to support ACT use	Health system financing
	<ul style="list-style-type: none"> <li>• A study by Ikeoluwapo and colleagues suggests selection criteria for recruitment of CHWs, motivational incentives and supervision systems for CHWs (8)</li> <li>• There are no apparent harms for these strategies, cost is minimal and social acceptability is high</li> </ul>	<ul style="list-style-type: none"> <li>• Results from ACT Subsidy Project (3) found increased overall uptake of ACTs with subsidized medicines, particularly for under-five children. The cost of subsidized ACTs remained minimal at the point of purchase. Harms included under-representation of older children for anti-malarial purchases and potential inequity from higher socioeconomic classes accessing drug shops more frequently than poorer classes</li> </ul>	<ul style="list-style-type: none"> <li>• There is some evidence to support the use of subsidies for the poorest sections of the population, merging of schemes and management support for the success of CHI (1;2)</li> <li>• There is insufficient evidence regarding the potential for overuse of services with SHI or CHI</li> <li>• Political acceptability is imperative for the implementation of SHI or CHI</li> </ul>

shifting from out-of-pocket payments to prepayment and pooling of funds using a combination of social health insurance and community-based health insurance. These three options are described in Table 1.

## IMPLEMENTATION OF THE POLICY OPTIONS

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

## DISCUSSION

A half-day policy dialogue meeting was held by the Uganda country office of the Regional East African Community Health Policy Initiative in April 2008. Participation included researchers, policy makers, health managers, and civil society. There was general agreement about the feasibility of two of the policy options in the Ugandan context. Some delegates advocated for the inclusion of Rapid Diagnostic Kits to support use of ACTs by CHWs. It was believed that there was need for more evidence to support social health insurance. A key output was the decision by a senior policy maker to include the policy brief as one of the resource documents to develop the new National Health Policy document (2009), which provides direction for the health sector for the next 10 years.

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