

Reducing the economic and social burden of malaria



* Mr Robert Agyarko



** Dr Tuoyo Okorosobo

Introduction

The high burden of malaria constitutes a significant drain on economic development in endemic countries and is a challenge to both human and economic development. For many countries of the African region, effective malaria control is essential for progress towards achieving the Abuja targets and the Millennium Development Goals. There is a bi-directional link between malaria and economic development; high prevalence of malaria impairs health and restrains economic development. On the other hand, by improving health status, living conditions and access to effective prevention and treatment, economic development reduces illness from malaria.

The impact of malaria can be categorized from three dimensions, namely: health, social and economic. Health-related effects are usually described in terms of life years lost to premature death, as well as the morbidity aspects. The social dimension focuses on the coping strategies for the disease and also the hindrances to usual social participation. The economic dimension focuses on three categories of effects, namely: direct, indirect and intangible effects which are felt at both macro and micro levels.

This paper reviews available evidence on the burden of malaria in countries of the African Region and the response of households, governments and other stakeholders to this public health problem. It concludes with some recommendations to ensure that the stated national and global targets on malaria control are achieved.

Conceptual Framework

Malaria attack results in morbidity, disability and in some cases in mortality. The effects of these conditions constitute the burden of illness. The economic and social burden of malaria at the household level can be analyzed through a conceptual framework that combines the interrelationships between the individual/household, health system and social resources. The decision to seek treatment has cost implications which are generally broken down into direct and indirect costs. The direct costs represent the households expenditure linked with seeking treatment - cost of drugs; registration, consultation, and laboratory fees; transportation costs; and other direct costs borne by households due to the illness and its control. Indirect costs refer to the loss of household productive labor time for patients and caregivers.

From the individual or household perspective, the total costs of an episode of malaria are influenced by the severity of illness and the characteristics of the health service that influence access and choice of provider. Where these costs exceed the household's budget, it may trigger coping strategies such as borrowing, asset sales or claims on resources outside the household. The illness costs and coping strategies then have implications for household asset holdings. At the macroeconomic level, malaria mortality and morbidity affects economic growth through its debilitating effects on the labour force.

From the social perspective, the term malaria is often found in the local vocabulary of most African communities and refers to a mix of symptoms that correspond closely with clinically defined uncomplicated malaria. For most adults, an attack of malaria is perceived as a common illness with signs and symptoms that are seen as within tolerable limits, and which cause minimal disruption to their lives. Even among children, uncomplicated malaria is frequently seen by parents and caregivers as a mild everyday illness that is not preventable but treatable. Malaria is a well known and socially acceptable disease.

Unlike other diseases like HIV/AIDS and tuberculosis, there is low social pressure to seek treatment, provide money for treatment of close relatives, or even to comply with completing treatment regime.

A direct consequence of accepting uncomplicated malaria as a normal illness is that at all levels people with the illness are not expected to deviate significantly from everyday behavior. The outcomes of the social perception of the disease are delays in seeking treatment, recourse to ineffective local remedies, diminished productivity as people afflicted with the disease try to engage in their normal activities, and progression into severe forms of malaria.

of malaria in 2004 was US\$ 4.8. A similar result was obtained in Mali which showed the direct cost of malaria to households being US\$ 4.5. In Nigeria, it costs about US\$ 1 to treat a malaria episode by self-medication, and about US\$ 11.5 to treat it by the use of orthodox health care provider when admission is involved. When admission is not involved, this comes to about US\$ 10. It is no wonder then, that in these low-income countries, self-medication for malaria treatment is widespread.

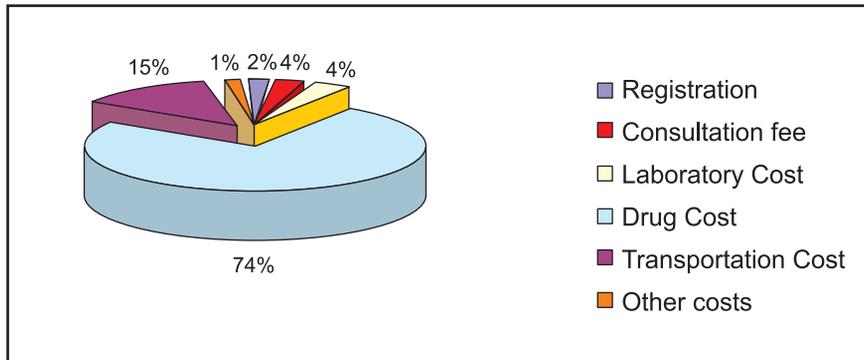
Studies in Ghana, Nigeria, Mali, Uganda and Guinea have found that indirect costs make up more than 70% of total household malaria costs. These studies found that sick adults lost 1 to 7 days

Households across the region are thus spending significant amounts of their meager resources on preventing and treating malaria. As this amount does not vary with household income levels, malaria represents a disproportionate economic burden, particularly on the poorest households. The direct costs of malaria are generally regressive, imposing a greater burden on poor families than the better-off families. In Malawi for example, a survey showed a wide variation on household spending on malaria treatment, with high income households spending only 5% of their average annual income on malaria, and very poor households spend 32% of their income on malaria.

Impact of malaria on the macroeconomy

Estimates of the burden of malaria on the overall economies of Ghana, Mali, Nigeria and Uganda have been obtained using the production function growth model. The results reveal that malaria impedes economic growth in the countries ranging from 0.067% in Uganda to as much as 3.8% in Nigeria. The Gross Domestic Product loss due to malaria in Uganda in 2003 was equivalent to US\$11 million, which is a very substantive loss to the economy for a country like Uganda. This estimated GDP loss due to malaria translates into US \$ 0.43 per capita, which is about 5% of health per capita expenditure. These results show that for a single disease, the economic impact of malaria on endemic countries of the region is substantial and call for urgent and concerted efforts on the part of governments and their partners.

Figure 1: Direct cost of malaria treatment in Uganda



Extent of the Burden

Impact of malaria on household expenditures

Households in malaria endemic countries of Africa spend significant portions of their income on seeking treatment for malaria episodes, and on preventive measures. Recent evidence from Ghana showed that in 2003, the direct cost of a single episode of malaria to household was US\$ 6.87. In Uganda, the direct cost to households of an episode

per malaria episode, depending on severity. The estimated value of days lost due to malaria is quite high, for example in Ghana US\$ 8.92, and in Uganda US\$ 8.84. The indirect costs of malaria are a key determinant of the diseases' total costs because adults give up activities to care for children when they are afflicted or when the disease strikes directly the economically active population. Monthly household expenditures on malaria prevention ranged from US\$ 0.32 to US\$ 10 in the five countries.

Responses to reduce the burden of Malaria

In response to an episode of malaria in the household, decisions are made about treatment and if the illness is serious they may have to reallocate tasks to cope with the loss of a worker or to care for a sick child, and borrow money to pay for treatment or replace lost earnings. The coping strategies can therefore be defined as actions that aim to manage the costs of the illness that threatens the welfare of one or more members of the household. Ultimately these coping strategies seek to sustain the economic viability and sustainability of the household.

More than ever before, there is a need for renewed emphasis on the behaviour for change communication component of national strategic plans to ensure that the attitudes of population at large to this killer disease is reoriented towards taking appropriate actions at all times.

National and local authorities must be lobbied and mobilized to institutionalize routine actions that will systematically address the malaria problem. At the household level, targeted BBC activities will help the population view the disease as killer that it potentially is, rather than a mere unavoidable illness, and also direct the current levels of household expenditures on malaria to the cost effective interventions being promoted by national programmes. A range of strategies to mitigate or manage the costs of malaria have been observed in countries of the region, with intra-household labor substitution the most common response to mitigate

indirect costs. Common illness shocks affecting households, particularly those with young children, are commonly managed through use of savings, borrowing, and temporary cuts in other spending.

The opportunities that households possess for labor substitution will crucially affect whether malaria leads to output and income losses, but empirical evidence on the extent of labor substitution and, in particular, its impact on output and other activities, is limited. Overall, although the disease burden of malaria is large, no clear evidence was found on the links between malaria and impoverishment at the household level. As indicated above, many people afflicted with the disease carry on with their normal toll of activities, although at diminished levels of productivity.

There have been numerous efforts at country, regional and international levels to combat the disease. Starting with the Accelerated implementation of Malaria Control launched in 1997 by WHO that became to forerunner for the African Initiative for Malaria Control in the 21st Century and the Roll Back Malaria Initiative (RBM) which was jointly launched with UNICEF, UNDP and the World Bank in 1998, the international community has joined African Heads of State to gradually bring malaria to the forefront, with HIV/AIDS, of the development agenda. The Abuja Summit of 2000, the Millennium Development Goals (MDGs), and the Maputo Declaration of 2003, in which African Heads of State committed themselves to achieving a target of allocating 15% of their national budgets to the health sector are evidence of the

highest levels of political commitment in the fight against the disease.

The availability of increased funding from diverse sources such as the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM), World Bank Booster Programme for Malaria Control, bilateral agencies and private foundations, and the recent US Government Initiative on Malaria Control, has enabled African countries to expand coverage of the different interventions at levels not possible in the past. Many countries have significantly increased access to ITNs, through a combination of targeted subsidized and free distribution to the very poor and vulnerable groups, and social marketing to the general population as well as in conjunction with EPI campaigns in some countries.

Some policy-related issues arise from the above. First, the current levels of substantial household out-of-pocket expenditures on prevention and treatment of the disease, signify that there is a window of opportunity to tap into currently available resources for the control of the disease. Secondly, the high costs of illness for malaria strongly justify efforts to improve coverage of preventive measures, particularly among the poor. In the studies in Ghana and Nigeria reported above, for example, the cost of controlling malaria was found to be lower than the value of lost output from the disease. The studies in all five countries also found that the high level of resources that households devoted to malaria treatment indicated little was being done to control the disease and that much more preventive work was needed. The evidence on the macroeconomic impact of

malaria in these countries reveal that the disease's economic impact is enormous and requires immediate action to improve control, particularly through better targeted anti-malaria campaigns so that the poor gain access to prevention and treatment measures. Finally, there is a need for far more investment in curative services that are close to the patients and to expand access to treatment that would reduce the direct and indirect costs of illness to households. Protection against the catastrophic treatment costs for severe malaria illnesses is particularly important.

Conclusions

The foregoing sections have demonstrated that efforts at all levels have resulted in malaria being accorded a priority position alongside HIV/AIDS in the health development agenda, and also in increased resources for its control.

The enduring global concern over the burden of the disease has resulted in a Resolution passed by the 58th Session of the World

Health Assembly (WHA 58.2) in 2005. The Resolution calls upon Member States to continue and intensify efforts to ensure that the international goals for malaria control are achieved.

The emerging challenge is for all stakeholders to ensure that there is commensurate managerial capacity at all levels to ensure the efficient and effective utilization of the increased flow of resources. National malaria control programmes need to develop and implement sound operational plans, geared towards scaling up the different interventions, with effective supervision, monitoring and evaluation components.

Reaching the vulnerable and rural poor will require national authorities to coordinate their efforts with NGOs and civil society that have existing channels to these hard to reach groups.

More than ever before, there is a need for renewed emphasis on the behaviour for change communication component of national strategic plans to ensure that the attitudes of population

at large to this killer disease is reoriented towards taking appropriate actions at all times.

National and local authorities must be lobbied and mobilized to institutionalize routine actions that will systematically address the malaria problem. At the household level, targeted BCC activities will help the population view the disease as killer that it potentially is, rather than a mere unavoidable illness, and also direct the current levels of household expenditures on malaria to the cost effective interventions being promoted by national programmes.

** Mr Agyarko is the Coordinator of the Malaria Support Team and focal point for GFATM at the Regional Office.*

*** Dr Okorosobo is the Health Economist at the Malaria Control Unit at the Regional Office.*