

## Malaria control in the context of integrated management of childhood illness in Tanzania: the challenges ahead

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**Abstract:** Malaria is the public health problem number one in Tanzania, being the leading cause of outpatient attendance and hospital admissions. The economic impact of malaria is so high in poor countries like Tanzania that it can be said that the disease causes and perpetuates poverty. Malaria is prevalent in almost all parts of Tanzania, being endemic in 95% of the country. Malaria control strategies in the country include proper diagnosis and case management, chemoprophylaxis in pregnant mothers, use of insecticide-treated nets and epidemic preparedness. Integrated Management of Childhood Illness (IMCI) is a broad strategy that encompasses a wide range of interventions for reducing morbidity and mortality associated with the major causes of childhood illnesses including malaria. This paper deals with the challenges faced by the health system in its understanding of the IMCI and malaria control strategies and incorporating them in the district services, making it effective. The issues raised here are pertinent to effective malaria control and this paper provokes a national debate in this area by taking a bold stance of proposing the way forward.

### Introduction

Every year over 300 million people suffer from malaria globally. Forty percent of the world's population live in areas with malaria risk with 9 out of 10 of the cases occurring in sub-Saharan Africa. Malaria is therefore the most important public health problem in sub-Saharan Africa where it is responsible for one million deaths in children under the age of five years. In Africa, an estimated 24 million pregnant women are threatened by malaria which not only affects their health, but also causes poor pregnancy outcome. The cost of malaria drains African economies, accounts for a large part of the burden of disease, and severely affects family income and working capacity (WHO, 2002).

Malaria is the public health problem number one in Tanzania. It contributes to 38-40% and 50-54% of outpatient and inpatient caseloads in children under 5 years of age, respectively (Health Statistics Abstracts,

2002). In the  $\geq 5$  year age group, malaria contributes to 33-35% of all admissions in health facilities in the country. The disease accounts for 19% of death in all age groups in hospitals (Table 1).

Malaria is implicated in decreased learning capacity in children, students and trainees in the age groups 5-25 years and to loss of economic productivity in the workforce aged 15-55 years. The cost for outpatient and inpatient care per case has been conservatively estimated at US\$ 2 and US\$ 25, respectively.

The economic impact of malaria is so high in poor countries like Tanzania that it can be said that the disease causes and perpetuates poverty. Apart from the direct costs related to loss of disability to the sick individual, time spent with sickness and treatment costs; there are much higher costs in terms of family time spent to care for the sick, loss of productive time and time spent by families and communities to grieve for the dead.

Table 1: Proportion (%) of outpatient and inpatient diagnoses of malaria as compared to other infectious diseases in Tanzania in 1998-2000

Outpatient	Year	Malaria		ARI		Pneumonia		Others	
		<5year	>5year	<5year	>5year	<5year	>5year	<5year	>5year
	1998	40.0	35.7	14.2	12.0	7.5	4.2	38.3	48.1
	1999	40.1	35.1	15.1	13.0	7.4	5.5	39.2	46.4
	2000	38.5	33.8	14.4	12.5	8.0	4.2	47.0	49.5
Inpatient	1998	50.4	56.3	3.1	2.8	11.9	7.9	34.6	33.0
	1999	54.6	56.0	4.6	4.4	14.4	10.2	26.4	29.4
	2000	54.7	56.0	4.3	4.0	15.5	11.3	25.5	28.7

Key: ARI= acute respiratory infection; (Source: Health Statistics Abstract, 2002)

Malaria has been demonstrated to account for over 30% of the national disease burden, and is therefore a top health priority for allocation of resource for its prevention and control. Malaria features strongly in the National Package of Essential Health Interventions (MoH, 2000).

Malaria is prevalent in almost all parts of Tanzania, being endemic in 95% of the country. However, there are variations in the transmission levels, which are conveniently classified as unstable seasonal, stable with seasonal variations, and stable perennial malaria transmission. Unstable seasonal malaria occurs with a transmission period of not more than 3 months a year. In these areas malaria occurs in epidemic forms with increased transmission, morbidity and mortality. These areas are mountainous at altitudes above 2000 m. At higher altitudes there is, usually, no malaria transmission. But in recent years this pattern has been changing, whereby epidemics are increasingly being experienced (Mboera & Kitua, 2001). Currently about 25% of the population in Tanzania lives in epidemic prone areas and generally these people have little immunity, and are therefore susceptible to severe malaria in all age groups.

Stable malaria with seasonal variations show seasonal intense transmission for 3 to 6 months in a year, and occurs in high altitude plains. About 34% of the population lives in these areas. Stable perennial malaria transmission occurs along the coast and lake shores which are inhabited by about 42% of the population.

### **Malaria control strategies in Tanzania**

The National Health Policy (NHP) formulated in 1990, has been amended to encompass the health sector reform process, so that decentralization of public health service delivery and collaboration with the private sector becomes possible. Its vision is to improve the health and wellbeing of all Tanzanians with a focus on those at most risk and to encourage the health system to be responsive to the needs of the people. This policy provided the basis for the development of the National Malaria Medium Term Strategic Plan of 2002-2007.

The strategic plan has been developed inline with the objectives of Roll Back Malaria and the Abuja Declaration. Its goal is to reduce malaria to a level where it is not a major public health problem and obstacle to socio-economic development. Its general objective is to prevent malaria related mortality and

reduce morbidity in all regions of Tanzania by 25% by 2007 and by 50% by 2010.

The main strategies are:

- Improve malaria case management
- Vector control through the use of insecticide treated nets (ITNs)
- Prevention of malaria in pregnancy
- Epidemic preparedness, prevention and containment
- Operational research
- Promotion of positive health practices
- Monitoring and evaluation.

### **The Integrated Management of Childhood Illness Strategy**

Integrated Management of Childhood Illness (IMCI) is a broad strategy that encompasses a wide range of interventions for reducing morbidity and mortality associated with the major causes of childhood illnesses, namely: malaria, diarrhoea, measles, acute respiratory infections and malnutrition. IMCI strategy is made up of three components:

1. Improving case management skills of health workers through provision of guidelines on IMCI and training in standardised procedures and follow up of trained health workers.
2. Strengthening health systems by ensuring availability of drugs and other supplies, improving monitoring and supervision, and strengthening referral systems and referral care.
3. Improving household community practices for child survival, growth and development with a focus on health seeking behaviour, compliance with prescribed treatment, proper home care of sick children and general health promotion.

The implementation of IMCI strategy in Tanzania started in 1996 including 7 districts. These included Igunga, Korogwe, Magu, Morogoro Rural, Mpwawwa, Muheza and Rufiji districts.

Some of the major achievements that have been made in the implementation of the IMCI strategy in Tanzania are:

- The government has created a budget line to the IMCI unit in 2000/2001 and the amount has increased over the years
- Supervisory visits have been shared with decision makers in the Ministry of Health, this has helped to monitor the progress of IMCI implementation,
- Seventy-five per cent of the Regional Health Management Teams have been oriented on the IMCI strategy,

- By 2002, orientation meetings for IMCI implementation have been conducted in over 80% of the councils countrywide, of which 45 were at different stages of IMCI implementation and have already included IMCI in their comprehensive health plans.
- Over 3300 health workers both in-service and pre-service have been trained in IMCI strategy
- IMCI strategy has been included in the pre-service curricula of the Ministry of Health Training Institutions since 1998 (MoH, 2002).

Despite the above listed achievement, there are several questions to be addressed. If IMCI has to contribute to better malaria control, we should be in position to measure the outcome of its strategies particularly in relation to case management. We should be able to show a proof for improved case management skills of health workers and answers to the following questions:

- Are the IMCI guidelines understood and effectively applied?
- Has the training on standard procedures been adequate?
- Is follow-up of training health officers effectively done?

The search for answers to the above questions should apply both to health care providers in public as well as private institutions. It would include improvement in prompt diagnosis and treatment, and the availability of affordable and effective medicines accessible to the most in need. It would also include proof of the reduction in case fatality rates which will have an impact on malaria mortality.

The major problems in the efforts to improve case management are found both in the diagnostic tools and the behavioural patterns at the community and individual level. These will include the level of sensitivity and specificity of the laboratory malaria test. It is desirable in the IMCI approach to have high sensitivity test that can provide magnitude of the disease a given area. The community should also be able to recognise the danger signs of malaria at household and community levels. In addition to this, the community should be able to recognise that anaemia and convulsions are associated with severe malaria.

### **Improvements resulting from the provision of IMCI guidelines**

The district as the centre of action for malaria and disease control will be required to provide the proof

or ascertainment as to whether:

- The IMCI guidelines are well understood.
- The guidelines are effectively applied
- The districts have ownership of the guidelines, which leads to the ownership of the process and outcome.

In relation to the improvements resulting from the training in standard procedures, the districts will be required to show proof as to whether there are capacities for training and maintaining training, the districts see these activities as being beneficial and are ready to put adequate resources in support of the activities. Finally the follow-up of trained health workers is of critical importance in ensuring continuity of work and quality of the product. It will therefore be important for the districts to be able to demonstrate that this is in place and functional, and that it is allocated sufficient resources to be effective. In addition, the importance of having adequate capacities at district level for this activity can not be over-emphasized.

### **Malaria control in the IMCI approach**

The National Malaria Control Programme has worked in close collaboration with IMCI to ensure that malaria treatment and prevention are highlighted in the IMCI approach. However, it is necessary that during the ongoing implementation phase, districts should take time to critically analyse the extent to which IMCI captures malaria control issues in practice. The areas of great interest should be able to answer the following questions:

- Is malaria adequately addressed in IMCI? (prompt diagnosis and treatment, case management and ITN use and other vector control measures),
- Is the community knowledgeable about malaria and its control at household level?,
- Do all people have access to correct and effective treatment? (what is the role of local drug shops and traditional healers in malaria treatment).

### **District ownership of malaria control and IMCI**

The questions highlighted above are critical in the endeavours to improve malaria control and reduce its burden over the population. It is through trying to answer them that the district can take real ownership of the means and processes for malaria control which will only be possible through: (i) recognition of the underlying variability in the epidemiology of malaria; (ii) availability of resources, and (iii) need to adapt malaria control planning to local conditions.

It is important to emphasize here that reduction of the burden of malaria in Tanzania will require districts to be aware of how malaria is distributed and apply control strategies adequately. Specifically, this should seek to provide information on where do most cases and deaths originate, where and when do epidemics occur and who provides services. The quality of the services is of paramount importance for an effective management of malaria in any district.

The district must be in position to know and apply the potential for modification of approaches to fit their local situation targeting their priorities in order to be able to effectively solve their problems. They should be in position to be able to measure milestones covered in the process and the end results.

### Conclusion

Malaria is an old and huge problem dimensionally. Its control will require the availability of adequate resources including financial and human as well as functioning health systems. To achieve effective malaria control, districts must therefore ensure that there are adequate capacities to undertake the required actions. There should be adequate allocation of resources through careful planning and prioritisation as well as the understanding that effectiveness of IMCI in contributing to malaria control depends on how it is understood and applied at district level.

The platform for achieving malaria control has already been set in terms of:

- National Malaria Medium Term Strategy 2002-2007
- IMCI guidelines and training
- National package of essential reproductive and child interventions identified
- Orientation package for focused antenatal care for malaria and syphilis in pregnancy
- National Guidelines on Integrated Disease Surveillance and Response

- National Guidelines on Malaria Treatment
- Government's political-will as demonstrated by implementation of:
  - The Abuja declaration
  - Roll Back Malaria Programme
  - Waiving of taxes for ITN materials and
  - The promotion of local net industry development.

The district is the critical element in the process and the determinant of achievements towards meeting the set targets. The National Malaria Control Programme is required to support the districts technically and ensure that capacities are adequate at district level.

IMCI is only an approach and will provide the required results only if carefully applied and when necessary adjusted to suit the local environment. Like a good car, it requires petrol to run, a good and caring driver, available mechanics to mend it when it has broken down, additional components like chains to make it run on rough terrain, and constant polishing so that it does not get rust. This is why I emphasize district ownership.

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