

# Meeting Report

UNDP/World Bank/WHO Special Programme for Research & Training in Tropical Diseases (TDR)



## A focused research agenda to influence policy and practice in home management for malaria

8-11 May 2000

Kilifi, Kenya





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# TASK FORCE ON MALARIA HOME MANAGEMENT

## Executive Summary

The Task Force on Malaria Home Management wanted to make a careful assessment of priorities and needs and to update the malaria home management research agenda. To accomplish these tasks, approximately 30 representatives were invited from: universities, institutions and groups likely to undertake the research; groups actively involved in intervention research; advisors/experts in areas relevant to home management of malaria; global, regional and country policy decision makers (from Roll Back Malaria - RBM, the WHO Regional Office for Africa - AFRO, United Nations Children's Fund - UNICEF); and other partners of TDR including a staff member of the Research Capacity Strengthening (RCS) unit, to meet for four days. The group identified research gaps, selected areas where TDR has a comparative advantage and can make a difference in the new international drive for Rolling Back Malaria, and developed draft calls for proposals. Priorities were also identified for strengthening appropriate research capacity. The outcome was a well defined research agenda for improving malaria home management that will be presented to TDR's steering committees, scientific advisory board and governing bodies, and will shape the workplan for 2001 onwards.

### BACKGROUND

Having realized that early recognition and prompt appropriate treatment of febrile illness in children is the foundation of malaria control in endemic countries, TDR has invested substantial resources in studying and understanding the treatment seeking behaviour for childhood malaria in endemic African countries. Building on the results of this work, TDR is developing and testing a number of interventions to improve home management. However, with the launch of the Roll Back Malaria initiative (with its consequent need for accelerated development of interventions to meet time-specific targets) and the increasing problem of resistance of malaria to easily available, affordable medications, the Task Force for home management recognized a need to refocus on some fundamental issues. In addition, the Task Force has recognized that issues related to home treatment can only be effectively addressed with an increased, central role of trained social scientists. Thus, in this meeting, the Task Force sought to involve social scientists in setting of research agenda and development of calls for research. The Task Force also attempted to involve representatives from potential collaborating institutions, agencies and funders in the definition of research needs. In involving these two groups of stakeholders, the Task Force hoped to develop an agenda informed by social science concerns and responsive to the expressed needs of scientists, institutions and control, so that it is more likely to receive broad support. Finally, the Task Force integrated concerns about capacity building into all the discussions on research agenda.

### MEETING OBJECTIVES

The objectives of the meeting were as follows:

#### **I. To review current understanding of the domain of home management for malaria, including:**

- factors influencing home management.
- existing practices/behaviours likely to lead to poor outcomes.
- past/present interventions to improve home management of malaria.

**2. To define key areas for research on malaria home management, including:**

- context in which home management for malaria occurs.
- increasing the understanding of home-based practices for malaria.
- developing and testing intervention strategies to improve home-based management of malaria.

***These areas will define the scope of research for the Task Force for the next several years.***

**3. To support and enable research in defined key areas by:**

- developing calls for proposals for research in key areas.
- identifying interests and needs of potential research groups, in particular social scientists.
- identifying basic generic study issues.
- determining appropriate capacity building strategies.
- exploring critical approaches to planning and conducting research, and effective advocacy.

**METHODS USED TO ACHIEVE OBJECTIVES*****Plenary presentations followed by discussion***

To meet the first objective, the first day and a half of the workshop was devoted to presentations and plenary discussions which provided the background for participants to discuss research priorities. The topics discussed were:

- Malaria control efforts: an experts viewpoint (*Prof. Kevin Marsh*)
- Roll Back Malaria: Many players. One goal (*Dr Charles Delacolete*)
- Current understanding of the domain of home management for malaria (*Drs Holly Williams and Carol Jones*)
- The viewpoint of malaria control programmes (*Dr Mary Ettling*)
- Past/present interventions to improve home management of malaria
  - TDR supported studies (uncomplicated malaria, rectal artesunate, combination therapy) (*Dr Jane Kengeya-Kayondo*)
  - Experiences from the shopkeeper training programme in Kilifi (*Dr Vicki Marsh*)
  - Experiences from Tigray, Ethiopia (*Dr Gebreysus Kidane, presented by Dr Peter Winch*)
  - Uganda experience (*Prof. Susan Reynolds Whyte and Dr Richard Odoi Odome*)
  - Traditional healer work in Tanzania (*Dr Peter Winch*)
- Research Capacity Strengthening (*Dr Inez Azevedo*)
- Harmonized strategies for community-based interventions in the context of RBM in the African region (*Dr Kaendi-Munguti*)
- Improving family and community practices: A component of the Integrated Management of Childhood Illness (IMCI) strategy (*Dr N. Kenya-Mugisha*)
- Research agenda on malaria prevention and control, U.S. Agency for International Development (USAID) Bureau for Africa (*Dr Mary Ettling*)
- Approaches to understanding problem behaviours (*Dr Susan Zimicki*)

***Group discussions and summaries***

To meet the second and third objectives, beginning in the afternoon of the second day and continuing through the third day, participants worked in three groups that reported back to the plenary at task breaks. The groups were asked to perform two tasks: first to develop prioritized lists of research gaps, then to develop calls for proposals for one of the three top priority topics. For the first task, each group was asked to consider research gaps from a different perspective:

- What we don't know. This group was asked to identify new basic knowledge that still needs to be acquired (e.g. the problem of malaria in towns, severe illness recognition, sequence of symptoms and care-seeking).
- What we think we know, but don't know and what to do. One problem this group considered was adherence to therapy.
- Tools that have shown effectiveness in research/small-scale settings and need to be scaled up.

The three groups were to develop short lists of research gaps, and then prioritize them according to importance and the comparative advantage of the Task Force and TDR scientists in addressing them.

In plenary, each group presented its list of priority topics, which were then discussed. By consensus, five topics were selected as the ones the Task Force would focus on. Participants were then asked to reconvene in small groups to develop draft calls for proposals for these five topics. The advantage of doing this is that it involved the sort of people who would actually be doing the research in developing the terms for it.

### **Final discussions**

On the last day, participants discussed two topics: collaboration and capacity building. Regarding collaboration, each person representing potential collaborating institutions, including AFRO, African Medical and Research Foundation (AMREF), USAID, UNICEF, Centers for Disease Control (CDC), RBM, Wellcome Trust, University of Copenhagen, CHANGE Project (see participant list for complete listing), was asked to comment on how the relationships initiated at this meeting might be continued and developed.

The discussion of capacity building focused not only on the need for 'classical' training programmes, but also on the potential for mentoring and capacity strengthening through networking.

## **SUMMARY OF INITIAL PLENARY SESSIONS**

### ***Opening of the meeting***

The meeting was opened by Dr Were, the District Medical Office for Health, Kilifi District. He stressed the burden that malaria puts on the health system, accounting for 30-50% of outpatient consultations and 14 000 admissions of severe malaria annually. Every year, 26 000 children die from malaria and 40% of prime gravida suffer from severe anaemia. Malaria is a big factor in the poverty status of the population; 6% are food poor and 30% are hard core poor. Chloroquine resistance in Kenya (more than 70%) has resulted in the country having to change to sulphadoxine-proguanil (SP) as first-line treatment for uncomplicated malaria. However, in selected areas, SP resistance levels of 30% have already been recorded.

Dr Were concluded by affirming Kenya's backing for RBM, having participated and signed the Abuja declaration, and his district's recognition of, and support to, the role of the home in early treatment for malaria.

### ***Plenary presentations and discussions***

Researchers presented results and experiences from recent studies. Highlights of the presentations and discussions, which were born in mind during the group work to identify priorities, included:

- Measures that can improve delivery of efficacious antimalarial drugs at the household and community levels, including: training of shopkeepers (Kenya, Uganda); innovative packaging of antimalarial drugs (Ghana, Nigeria, Uganda). And the significant

improvement in child survival that can be achieved through home management of febrile illness, as suggested by recently published research from Ethiopia. However, these interventions have so far only been tested in small, isolated studies, and their feasibility, sustainability, cost and effectiveness over time have yet to be demonstrated on a larger scale.

- Dr Kevin Marsh's review of the state of the art of malaria control, which emphasized the increasing threat to control efforts posed by resistance to antimalarials, and how alternative drugs had been introduced into control programmes and on to the market without much consideration as to their proper/maximal use at the community and home levels. Concern was raised about how home management interventions affect, and are in turn affected by, the level and stability of malaria transmission and the development and spread of antimalarial drug resistance.
- The neglect of malaria home management in urban areas, despite the several factors which make the urban context different from the rural.
- The need for strong links with the formal health care system in home management of malaria.

Efforts to improve home management for malaria cannot be developed as stand-alone efforts, and strong links with the formal health care system will provide the support needed for its development and success. Models for the development and functioning of this reinforcing collaboration, and for its strengths and weaknesses, should be a focus of home management research.

- The problem of treatment seeking for children with severe illness (convulsions, coma), which will involve work with traditional healers, remains to be addressed.

In addition, Drs Holly Williams and Caroline Jones provided information about the database of articles they are developing, and presented preliminary results of their investigation of the contribution of social science to research on malaria in Africa. Dr Mary Ettling, Dr Kenya-Mugisha, Dr Kaendi, and Dr Delacoelette presented information pertaining to the policy and institutional context of home treatment research, and Dr Susan Zimicki suggested that the ecological model is an appropriate framework for considering research problems related to home treatment.

## MEETING OUTCOMES: RESEARCH GAPS IDENTIFIED BY GROUPS

The following topics are not listed in order of priority. Task Force (TF) members, who know best the comparative advantage of the TF, were responsible for judging whether the TF is suited to address the individual topics. The list pulls together all the discussions around identification of gaps.

### **I. Documentation and assessment of relationships between national policies and home care practices for childhood illnesses in differing country situations.**

Possible activities:

- identify important policies affecting home management e.g. describe the impact of health sector reform (decentralization, user fees, private-public collaboration, health care financing) on home management.
- chart the history of development of relevant policies, including conflicts between policies.
- indicate gaps between policy and practice and the ways in which these have been addressed or avoided.

***This Task Force is not well placed to address this area in isolation.***

### **2. The use and production of epidemiological and demographic data to guide decision-making and implementation of strategies for malaria home care.**

Two activities:

- production of guidelines/tools for data collection.
- collection of area specific data (possible strategies: support this type of data collection in 'typical' situations which can be generalized, OR support any application with the resources to do this).

***This Task Force is not well placed to support either of these areas.***

### **3. Development, implementation and assessment of intervention strategies directed at communities to improve home management of malaria/fever/illness.**

Possible activities:

- Review/document existing understanding of home management practices – what happens, why, and how can it be improved?
- Review/document past interventions - which strategies have been tried, how was this done, what were the outcomes, and what were the lessons (especially in relation to factors affecting outcome and sustainability)? Note: *its important to assess unsuccessful strategies as well as successful ones.*
- Develop a 'library' of potential strategies based on the documentation described above: involve schools (future parents), traditional healers (mild or severe cases, treatment or referral?), media, women's groups, religious congregations and the pharmaceutical industry.
- Target gaps in the current understanding of important behaviours in this context.
- Develop guidelines and tools to identify the most effective strategies in a given environment.
- Develop guidelines and tools to support the intervention itself:

- how to develop a curriculum and approach for training (note: *politics of information* – ‘who should have what information’ – and *pattern of escalating ambition* – ‘people always want to do more than they have been trained to do’).
- how to develop an appropriate operational framework.
- how to encourage sustained input.
- how to evaluate (standardized evaluation to allow comparison of outcomes between approaches, standardized costing for cost effectiveness comparisons, and measuring mortality outcomes for interventions, where possible).
- Support both pilot and large-scale operations with standardized evaluation approaches.

***This is an area that the Task Force is very well placed to support.  
Full details under ‘Call for proposals’.***

#### **4. Development, implementation and assessment of intervention strategies directed at governmental and private health facilities to improve home management of malaria/fever/illness.**

Possible activities:

- Review/document existing knowledge of the links between the formal health care sector (government and private) and caretakers in the home – what happens, why, how can it be improved?
- Review/document interventions - which strategies have been tried, how was this done, what was the outcome, what were the lessons?
- Compile a ‘library’ of potential strategies based on the documentation above - possible strategies could be: improving health worker diagnostic, referral and communication skills; improving motivation of health workers; improving drug distribution and stock control; addressing issues of cost and distance barriers; pre-packaging of drugs; increasing autonomy of local health committees.
- Target identified gaps in the understanding of important behaviours in this context (link between formal health sector and the home).
- Develop guidelines and tools to identify the most effective strategies based on assessment of a specific environment.
- Develop guidelines and tools to support the intervention itself:
  - how to develop the components of the intervention for a given situation (based on the understanding of current knowledge, attitudes and practice – KAP – of stakeholders, factors which will support or hinder change, and negotiation of new behaviours).
  - how to develop a curriculum and approach for training health workers (including communication skills).
  - how to develop an appropriate operational framework.
  - how to encourage sustained input (role of community-based income-generating activities, micro-financing of community projects, national level information, education and communication – IEC - support).
  - how to evaluate (note problems in assessing drug use/compliance etc).
- Support both pilot and large-scale operations testing new approaches with standardized evaluation methods.

#### **5. Development and testing of strategies to identify and optimize home care in disadvantaged households.**

Possible research areas to include:

- Identification of crucial household resources: knowledge/experience, social support/network, material resources.
- Flagging of important warning signs: displaced persons, marginalized families, lack of education, disabled persons.
- Understanding of the implications for home management in disadvantaged homes.
- Developing potential strategies for supporting such homes.

***This is an area that the Task Force is very well placed to support.***

***Full details under 'Call for proposals'.***

## **6. Development of effective approaches to introducing new antimalarial drugs to health workers and users.**

It may be useful to address specific important contexts e.g. increase in cost, change from single dose to multidose regimes.

***This is an area that the Task Force is very well placed to support.***

***Full details under 'Call for proposals'.***

## **7. Understanding of home management issues specific to urban situations.**

- What is the nature of home management in urban areas?
- What are the possible targets for intervention?

***This is an area that the Task Force is very well placed to support.***

***Full details under 'Call for proposals'.***

## **8. Understanding factors underlying fatal outcomes in children who develop fever/malaria at home.**

In-depth 'health to death' studies: Comparative studies of episodes leading to death to identify points of intervention.

***This is an area that the Task Force is very well placed to support.***

***Full details under 'Call for proposals'.***

## **9. Understanding the strengths/limitations of 'presumptive treatment of malaria' in situations of differing malaria transmission intensity and with differing safety profiles for first-line antimalarial drugs.**

- how do we formulate behavioural recommendations for mothers faced with a febrile child?
- what are the risks and benefits of presumptive treatment at home, shopkeeper and clinic levels in different transmission settings, given different first-line antimalarial treatment recommendations?

## **10. Generalization of effective intervention strategies from one site to another.**

- Document/review experiences (positive and negative) in the generalizing of interventions.
- Assess the critical components of these interventions with regard to successful/unsuccessful generalization.
- Plan intervention research with the critical components both described and costed to allow assessment of potential for generalization.

## **11. Understanding how small-scale intervention programmes can most effectively be brought to scale.**

Areas for development of tools:

- Advocacy tools/guidelines.
- Simplified political mapping methods.
- Monitoring tools.

### **Research questions:**

- **What are the factors that influence the performance of community agents (CAs) and the sustainability of community-based interventions (CBIs)?**
- **What intervention strategies are necessary to maintain CAs?**
- **What are the factors that hinder/promote the scaling up of successful small CBIs?**
- **What is the cost of the current interventions for home management?**
- **What are the ethical issues to consider in scaling up CBIs?**

*This is an area that the Task Force is very well placed to support. Detailed under 'Call for proposals'.*

## MEETING OUTCOMES

### ***CALLS FOR PROPOSALS FOR THE TOP PRIORITY AREAS***

Small groups developed draft calls for proposals on the following five topics:

1. Home management of urban malaria.
2. 'District level' scale up of interventions for improving home management for malaria.
3. In-depth assessment of factors underlying mortality from childhood fevers.
4. Introduction of new/alternative types and/or forms of antimalarial drugs in home management practices for malaria.
5. The relationship between malaria transmission, antimalarial drug resistance and interventions to improve home and community management of malaria.

(Full final, revised text of these calls can be found in Annex 3.)

### ***COLLABORATION and CAPACITY BUILDING***

All participants who were 'representing' institutions expressed satisfaction that they had been able to meet not only each other but also active researchers to discuss how to address a significant problem. Participants from AFRO saw this as an initial step towards a common research agenda with TDR. Participants from USAID reiterated their support for this area, both through direct support to TDR and through support for the Multilateral Initiative on Malaria (MIM) and RBM. Participants from UNICEF expressed interest in stronger collaboration with the Task Force, and saw a real need for home treatment of malaria to be addressed in the community component of IMCI. Participants from other institutions expressed their continuing interest and stated their willingness to support the Task Force and participate in its activities to the extent feasible.

The participants endorsed a new emphasis on social science, and noted the special need for capacity building in this area. In addition to traditional training programmes, they advocated the possibility of strengthening capacity through mentoring of less experienced scientists by senior researchers and of supporting it through networking. The Task Force was strongly encouraged to develop these approaches further, along the lines of the initiative funded by USAID through the CHANGE Project and CDC. Participants from CDC, The CHANGE Project, the University of Copenhagen, Johns Hopkins, and the London School of Tropical Medicine and Hygiene, all expressed interest in working with the Task Force on these matters.

### **NEXT STEPS**

The Task Force Manager will revise the workplan to reflect the research priorities suggested by the working group, and present it to the Director, TDR, for approval.

The draft calls for proposals will be revised and reformatted, and included in the new workplan.

The Task Force Manager will continue to work closely with the RCS unit in TDR to build on the new understanding of capacity building that was developed in the workshop, that is, on the new approaches (such as mentoring, networking) to strengthen and support social science research in malaria.

The Task Force Manager will endeavour to maintain and strengthen institutional links and will facilitate collaborations between institutions.

**Annex I****LIST OF PARTICIPANTS**

Dr Nahla El Sayed Abbas, Faculty of Medicine, Department of Community Medicine, P.O. Box 102, Khartoum, Republic of Sudan, Tel.: (249) 11.314.969, Fax: (249) 11.771.211  
email: nahla\_8a@hotmail.com

Dr J.A. Adeniyi, African Regional Health Education Centre, College of Medicine, University of Ibadan, Oyo State, Nigeria, Tel.: (234) 2.241.0088, ext. 3505, Fax: (234) 2.241.1768 or 0403  
email: malaria.iba@alpha.linkserv.com

Dr Richard Odoi Adome, Senior Lecturer, Faculty of Medicine, Department of Pharmacy, Makerere University, P.O. Box 16022, Kampala, Uganda, Tel.: (256) 774.01693, Fax: (256) 41.532821

Dr Pedro Alonso, Unidad de Epidemiología y Bioestadística, Hospital Clínic Provincial, Universidad de Barcelona, Villarroel 170, Barcelona, E-08036, Spain, Tel: (34) 93.227.5706, Fax: (34) 93.451.5272  
email: alonso@medicina.ub.es

Dr Kojo Yeboah-Antwi, Director, Kintampo Health Research Centre, MOH/HRU, P.O. Box 200, Kintampo B/A, Ghana, Tel/Fax.: (233) 61.27304  
email: yeboah-antwi@ghana.com

Mr Karisa Baya, KEMRI, CGMRC, P.O. Box 230, Kilifi, Kenya, Tel.: (254) 1252.2063  
Fax: (254) 1252.2390  
email: Bkarisa@kilifi.mimcom.net

Dr Edmund Browne, Department of Community Health, School of Medical Sciences, Kwame Nkrumah University of Science and Technology, University Post Office, Kumasi, Ghana, Tel.: (233) 51.60293, Fax: (233) 51.60302, 51.60351, 51.60137  
email: EBrowne@Ghana.com

Dr Mary Bourke Ettlting, Resident Advisor, Infectious Diseases/Malaria, USAID Bureau for Africa, Suite 400, 1325 G Street NW, Washington, D.C. 20005, USA, Tel.: 1 (202) 219.0486, Fax: 1 (202) 219.0507  
email: metttling@io.com & metttling@afr-sd.org

Dr Usha Rani Chadalawada, Assistant Professor, Department of Community, Siddharta Medical College, NTR University of Health Sciences, Vijayawada-520 008, Andhra Pradesh, India, Tel.: (91) 866.437171 Fax: (91) 866.434304  
email: usha\_kant@bigfoot.com

Ms Ane Haaland, c/o Meier, Bruhlgasse 40, St Gallen 9000, Switzerland, Tel.: (41) 71.222.6489, Fax: (41) 71.222.6438  
email: entec@compuserve.com

Dr Caroline Jones, Lecturer in Applied Anthropology, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, United Kingdom, Tel.: (44) 207.927.2649  
email: caroline.jones@lshtm.ac.uk

Dr Patrick Kachur, Malaria Epidemiology Section, Division of Parasitic Diseases, National Center for Infectious Diseases, Centers for Disease Control and Prevention, 4770 Buford Highway NE, Mailstop F-22, Atlanta, GA 30341, USA, Tel.: 1 (770) 488.7764, Fax: 1 (770) 488.7761/94  
email: HBW2@CDC.GOV

Dr Frederick A.D. Kaona, Mwengu Social and Health Research Centre, P.O. Box 73693, Ndola, Zambia, Tel.: (260) 2.680.724, (260) 2.621.412, Fax: (260) 2.621.112  
email: FADKaona@zamnet.zm

Dr Peter N. Kazembe, Lilongwe Central Hospital, P.O. Box 149, Lilongwe, Malawi,  
Tel.: (265) 721.555 or 733.292 (home), Fax: (265)721.018  
email: pnkazembe@malawi.net

Professor Kevin Marsh, Kenya Medical Research Institute, Wellcome Laboratories, PO Box 428,  
Kilifi, Kenya Tel.: (254) 125.22063, Fax: (254) 1252.2390  
email: kemrikf@africaonline.co.ke

Dr Victoria M. Marsh, KEMRI CGMRC, Wellcome Trust Collaborative Programme, PO Box 230,  
Kilifi, Kenya - Tel.: (254) 125.22535 or 125.25043, Fax: (254) 1252.2390  
email: vmarsh@kilifi.mimcom.net

Dr Susan McCombie, Department of Anthropology and Geography, Georgia State University, 33  
Gilmer St., Atlanta GA 30303-3083, USA, Tel: 1 (404) 651.1762, Fax: 1 (404) 651.3235  
email: mccombies@aol.com

Dr Sassy Molyneux, KEMRI, P.O. Box 230, Kilifi, Kenya, Tel.: (254) 1252.2063, Fax: (254) 1252.2390  
email: sassymol@hotmail.com

Dr B.A. Mpeka, Malaria Control Unit, Ministry of Health, P.O. Box 6149, Kampala, Uganda, Tel.:  
(256) 77.405.131, Fax: (256) 41.345.597  
email: dghs@infocom.co.ug

Dr F.D. Mtango, Muhimbili University, College of Health Sciences, Institute of Continuing Educa-  
tion, 65001 Dar es Salaam, Tanzania, Tel.: (255) 51.152.564, Fax: (255) 51.150.465  
email: Dmtango@hotmail.com

Dr Kenya Mugisha, United Nations Children's Fund, UNICEF Regional Office for Eastern and  
Southern Africa, P.O. Box 44145, Nairobi, Kenya, Tel.: (254) 2.52.19.13, Fax: (254) 2.62.26.78

Dr Leunita Muruli, Institute of African Studies, University of Nairobi, P.O. Box 30197, Nairobi,  
Kenya, Tel.: (254) 2.226.451/334.256 ext 28274, Fax: (254) 2.336.885  
email: nama@insightkenya.com

Mr Wilfred Mutemi, KEMRI, CGMRC, P.O. Box 230, Kilifi, Kenya, Tel.: (254) 1252.2063, Fax: (254)  
1252.2390  
email: Wmutemi@kilifi.mimcom.net

Mr John Muturi, African Medical and Research Foundation (AMREF), 3<sup>rd</sup> floor Praetor Forum, 269  
van der Walt Street, Pretoria, P.O. Box 11489, The Tramshed, Pretoria 0001, South Africa, Tel.:  
(27) 12.320.1332/3, Fax: (27) 12.320.1335, email: jmuturi@unicef.org.za

Dr Isaac K. Nyamongo, Senior Research Fellow, Institute of African Studies, University of Nai-  
robi, P.O. Box 30197, Nairobi, Kenya, Tel.: (254)2.334.244 ext 28274, Fax: (254)2.336.885  
email: nama@insightkenya.com

Dr Joseph Okeibunor, Department of Sociology and Anthropology, University of Nigeria, Nsukka,  
Enugu State, Nigeria, Tel.: (234) 42.258.078, Fax: (234) 42.257.499  
email: onwaorgu@infoweb.abs.net

Dr T.A. Okeke, Senior Lecturer, Department of Community Medicine, College of Medicine, Uni-  
versity of Nigeria, Enugu Campus, 36 Abakaliki Road, P.O. Box 671, Enugu State, Nigeria, Tel.:  
(234) 255.341, Fax: (234) 452.414  
email: adaokeke@infoweb.abs.net

Professor L.A. Salako, Director-General, Nigerian Institute of Medical Research, 6 Edmond Cres-  
cent St., P.M.B. 2013, Yaba, Lagos, Lagos State, Nigeria, Tel.: (234) 1.774.8309, Fax: (234) 1.492.5715  
e.mail: nos@beta.linkserv.com

Dr Masserigne Soumare, Clinique des Maladies Infectieuses Ibrahim Diop Mar, Centre Hospitalier, Universitaire de Fann, B.P. 5035, Dakar, Senegal, Tel.: (221) 821.0802, Fax: (221) 825.3695

Dr Stephen Were, Medical Officer of Health, Kilifi District, Kilifi, Kenya, Tel.: (254) 1252.2063

Professor Susan Reynolds Whyte, University of Copenhagen, Institute of Anthropology, Frederiksholms Kanal 4, DK-1220 Copenhagen K, Denmark, Tel.: (45) 35.323.477, Fax: (45) 35.323.465, email: susan.reynolds.whyte@antro.ku.dk

Ms Annie Willetts, KEMRI, CGMRC, P.O. Box 230, Kilifi, Kenya, Tel.: (254) 1252.2063, Fax: (254) 1252.2390  
email: Awilletts@kilifi.mimcom.net

Dr Holly Williams, Epidemiologist/Anthropologist, Malaria Epidemiology Section, Division of Parasitic Diseases, National Center for Infectious Diseases, Centers for Disease Control and Prevention, 4770 Buford Highway NE, Mailstop F-22, Atlanta, GA 30341, USA, Tel.: 1 (770) 488.7764, 488.7760, Fax: 1 (770) 488.7761/94  
email: HBW2@CDCGOV

Dr Peter John Winch, Assistant Professor, Division of Community Health and Health Systems, Department of International Health, Johns Hopkins University, Room E8153, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, 21205-2179, MD, USA, Tel.: 1 (410) 955.9854, Fax: 1 (410) 614.1419  
email: Pwinch@jhsphe.edu

Dr Susan Zimicki, Academy for Educational Development, P.O. Box No. 800, 1825 Connecticut Avenue NW, Washington, D.C. 20009-5721, USA, Tel.: 1 (202) 884.8825 or 978.546.0067, Fax: 1 (202) 884.8454 or 978.546.0067  
email: SZimicki@smtp.aed.org

### **Secretariat**

Dr I. Azevedo, (CDS/CRD/TDR/RCS)  
Dr C. Delacollette, (CDS/RBM)  
Dr J. Kaendi Munguti, (AFRO/RBM)  
Dr J.F. Kengeya-Kayondo, (CDS/CRD/TDR)  
Dr F. Pagnoni, (AFRO/RBM)



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UNDP/World Bank/WHO  
Special Programme for Research & Training in Tropical Diseases  
(TDR)

# MALARIA HOME MANAGEMENT

## I BACKGROUND

In May 2000, the TDR Task Force on Malaria Home Management organized a strategy meeting to define outstanding issues in home management of malaria. The meeting brought together approximately 30 representatives from universities and research institutions, as well as advisors/experts, and global, regional and country policy makers on malaria control. The participants identified the key areas for research on malaria home management that will influence policy and practice, and also strongly recommended the strengthening of research capacity focusing on these priority areas. Based on the recommendations from this meeting, the workplan for 2000/2001 has been extensively revised.

## II RATIONALE

Recognition and early appropriate treatment of febrile illness in children is the foundation of malaria control in endemic countries. Findings from recent studies suggest measures that can improve delivery of efficacious antimalarial drugs at the household and community levels - e.g. training of shopkeepers (Kenya, Uganda), innovative packaging of antimalarial drugs (Ghana, Southeast Asia, Burkina Faso, Nigeria, Uganda), and home management of febrile illness that may improve child survival (Ethiopia). These interventions have been tested in small, isolated studies and have shown feasibility and some degree of effectiveness in their chosen study sites. But their feasibility, sustainability, cost and effectiveness over time have not been demonstrated on a larger scale. This is a big challenge for implementation research.

With the increasing threat of antimalarial resistance, alternative drugs have been introduced in control programmes and on the market without much consideration to how proper use of these drugs at the community and home levels could be maximized. There is a pressing need to define a strategy for introducing alternative drugs to ensure improvement in home management practices.

Several factors make urban contexts different from rural contexts with regard to malaria home management and yet this has been a neglected area. In general, urban areas have greater health provider diversity, are socioeconomically and culturally more diverse, and operate under different governmental structures. Many of these factors influence methodologies, points and approaches for potential intervention.

In Africa, studies have shown that children with severe malaria symptoms are invariably taken first to traditional healers. Ways of improving referral practices for severely ill children focusing on traditional healers could shorten the time lag between onset of symptoms of severe disease and access to appropriate management.

The process of illness recognition, treatment seeking, referral practices and treatment of childhood fevers that results in death is poorly understood. Better understanding could lead to better focus of future interventions to promote improved malaria treatment in the community.

Concerns remain about how home management interventions affect, and are in turn affected by, the level and stability of malaria transmission and the development and spread of antimalarial drug resistance. These concerns could constitute an obstacle to the large-scale implementation of home and community management interventions, and researchers who are in a position to provide data that can contribute to appropriate modelling should be encouraged.

Another important concern is that efforts to improve home management for malaria cannot be developed as stand-alone efforts. There is the need for strong links with the formal health care systems so that the needed support for the development and success of home management programmes is provided. Tested experiences for how this reinforcing collaboration can be developed, how it could function, its strengths and weaknesses, will be important outcomes of home management research efforts.

### III OBJECTIVES

The aim of the Task Force is to develop and facilitate the implementation of a package of cost-effective interventions focusing on early appropriate home treatment for uncomplicated malaria in under-fives and on quick recognition and referral for severe illness. The extent of early appropriate treatment, compliance and impact on severe disease and childhood mortality are some of the outcome indicators. The Task Force also aims to develop qualitative, quantitative and implementation research expertise in large-scale, community-based interventions for malaria control.

The specific objectives are:

1. To take to 'district level' scale existing experiences in strategies for improving home management for childhood fevers, and to measure their feasibility, effectiveness and cost.
2. To develop ways of improving referral practices for severely ill children based on results of studies showing that children with severe malaria symptoms are invariably taken first to traditional healers.
3. To determine how the introduction of new/alternative types and/or forms of antimalarial drugs can be adapted for providers and users to ensure improvement in home management practices for malaria in children under the age of five years.
4. To describe home management of malaria in urban contexts in order to identify potential intervention points and approaches.
5. To identify areas in the process of illness recognition, treatment seeking, referral practices and treatment of childhood fevers that could serve as the focus for future interventions to promote improved malaria treatment in the community.

### IV INDICATORS AND PROGRESS

In 1999, the Task Force initiated focused studies in Ghana, Nigeria and Uganda to develop feasible and sustainable strategies to change the behaviour and practices of mothers, households and communities in order to increase the proportion of under-five children who receive appropriate home treatment for febrile episodes within 24 hours.

The outcomes of these studies, in 1-2 years time, are expected to include:

- Blister packaging of appropriate unit doses of drugs for home treatment of fever developed.
- Drug packaging and labelling in ways which improve precision and compliance with full treatment developed.
- Costing of drugs, including packaging and labelling, completed.
- Best training and information for communities, patients and drug sellers developed, pilot tested, monitored and documented.
- Appropriate distributors of drugs, who are accessible and trusted by mothers of sick children, and the required support to ensure proper diagnosis and treatment through these channels, identified.
- Ways of stocking, and re-stocking, of distributors developed and pilot tested.
- Tools to monitor the performance of each of the above developed.
- Indicators to measure the impact of an intervention after it is scaled up established.
- Methods for pre- and post-intervention surveys developed and tested.
- Common protocols for large-scale implementation research developed.

The rest of the objectives are new activities for which indicators of progress will be developed as the projects get under way.

**The Task Force is inviting research collaboration in all the specific objectives listed above. To facilitate the development of full proposals, useful details may be found in the “Calls for applications” appended to the work plan.**

You may also wish to send a two-page summary to the manager of the Task Force before developing a full proposal.

## **V HOW THE TASK FORCE WORKS**

The Task Force will hold at least one full meeting per year during which it will update its workplan and review and recommend research proposals on a competitive basis. Proposals, which are received between the main Task Force meetings, might also be reviewed through other mechanisms.

If a recommended proposal is accepted by the Director TDR, the researcher(s) is provided with the required technical and financial support for executing the work. Where required, the Task Force will organize other supporting activities such as protocol development and data analysis workshops, and site visits by experts. Task Force members will be actively involved in these supporting activities. The Task Force will collaborate closely with TDR's Research Capability Strengthening (RCS) group in strengthening research capacity in endemic countries and will expect disease control staff to be involved in most of the research activities.

Renewal of funding support for projects is based on the success of progress and delivery of a full technical and financial report.

## **VI HOW TO APPLY**

Interested researchers should contact the Task Force Manager to request application forms. A Task Force meeting is planned for March 2001. Proposals should be submitted at least 3 months before meeting. Correspondence should be sent to:

Dr Jane Kengeya-Kayondo  
Manager  
Task Force on Malaria Home Management  
TDR, World Health Organization  
Avenue Appia  
1211-Geneva 27  
SWITZERLAND  
Tel: (+41) 22-791-3737/3738  
Fax: (+41) 22-791-4774  
E-mail: kengeyakayondo@who.int

## VII INDICATORS AND PROGRESS

Product	Milestones	Status
District-level strategies for improving home management for childhood fevers, of measured feasibility, effectiveness and cost.	<ul style="list-style-type: none"> <li>● Focused studies started in 1999 in Ghana, Nigeria, Burkina Faso and Uganda. Progress reviewed September 2000.</li> <li>● Collaboration for scaling up invited; 2-3 studies funded in 2000.</li> </ul>	Ongoing
Developed and tested strategies for improving referral practices for severely ill children.	<ul style="list-style-type: none"> <li>● Collaboration invited; 2-3 studies were funded in 2000.</li> </ul>	Planned
Adapted ways of introducing, for providers and users, new/alternative types and/or forms of antimalarial drugs which ensure improvement in home management practices.	<ul style="list-style-type: none"> <li>● Collaboration invited; 2-3 studies were funded in 2000.</li> </ul>	Planned
Developed and tested approaches for improving home management of malaria in urban contexts.	<ul style="list-style-type: none"> <li>● Collaboration invited; 2-3 studies were funded in 2000.</li> </ul>	Planned
Identified points in the process of illness recognition, treatment seeking, referral practices and treatment of childhood fevers that can serve as the focus for future interventions to promote improved malaria treatment in the community.	<ul style="list-style-type: none"> <li>● Collaboration invited; 2-3 studies were funded in 2000.</li> </ul>	Planned

## Annex 3



November 2000

UNDP/World Bank/WHO  
Special Programme for Research & Training in Tropical Diseases  
(TDR)

## CALL FOR APPLICATIONS

# Research projects for 'district level' scale up of interventions for improving home management for malaria

Recognition and early appropriate treatment of febrile illness in children is the foundation of malaria control in endemic countries. Ongoing small-scale studies suggest that certain measures can improve delivery of efficacious antimalarial drugs (mainly chloroquine) at the household and community levels, e.g. training of shopkeepers (Kenya, Uganda) and innovative packaging of antimalarial drugs (Ghana, South-east Asia, Burkina Faso, Nigeria, Uganda), and that home management of febrile illness may improve child survival (Ethiopia).

The UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR) invites proposals for implementation research to take these experiences to 'district level' scale and assess their feasibility, effectiveness and cost.

The following should be some of the research objectives (not an exhaustive list):

- to test the feasibility, on a large scale, of strategies aimed at home management of uncomplicated childhood fevers which have been shown to be successful on a small scale.
- to identify the factors that influence sustainability on a large scale.
- to identify the factors that hinder/promote the scaling up of successful small-scale interventions.
- to document the costs of a large-scale intervention.
- to identify the ethical issues related to scaling up of interventions.
- to identify practical methods and tools to enable dialogue with policy/decision makers.
- to determine the behavioural change of caregivers resulting from the intervention.
- to determine the impact of the intervention on the disease in terms of severe morbidity and/or mortality.

The following conditions are required:

- The research proposal should be developed in collaboration with the national malaria control programme officials in the Ministry of Health, to ensure co-authorship of the project and full ownership of the results by the implementing authorities.
- The proposal must include two principal investigators, one from a university or research institution and one from the national malaria control programme.
- Collaboration between researchers and Ministry of Health officials should be clearly demonstrable at all levels of project implementation.
- Small-scale experiences where home management for malaria has improved include:
  - unit dose packaging of chloroquine.
  - training of community members working as antimalarial outlets (shop keepers, drug peddlers).
  - provision of information to mothers and other care providers.

Projects taking to scale these experiences, either singly or in combination, will be given high priority.<sup>1</sup>

- Activities to be undertaken during preparation, implementation, evaluation and monitoring should be spelt out.
- The framework of implementation should be within normal service delivery conditions for the country.
- The implementation unit should be a 'district type' of unit, with a population varying between 200 000 and 500 000 people.
- Potential replicability and sustainability will be important criteria for selecting projects. To document these features, the study team should collect data about actual activities carried out and the costing of all inputs. Methods for doing so must be stated.
- Methods for monitoring and evaluation, to be jointly performed by the research and implementation personnel, should be spelled out.
- Measurement must be both qualitative and quantitative and include outcomes related to:
  - changes in behaviour and practices as relevant to the intervention.<sup>2</sup>
  - home level assessments of access and compliance.
  - level of exposure of the target group(s) to the intervention.
  - anti-parasitic resistance (where feasible).
  - costing of inputs (operational, research, monitoring and evaluation).
  - documentation of activities.
- How the anticipated ethical and regulatory issues in the local context will be addressed should be spelt out.
- The methods that will be used to enable dialogue with policy/decision makers should be spelt out.
- A plan for dissemination of the results must be clearly spelt out

The Task Force on Malaria Home Management will hold at least one full meeting per year during which it will update its workplan and review and recommend research proposals on a competitive basis. A meeting is planned for March 2001. Proposals should be submitted at least 3 months before a meeting. Proposals which are received between the main Task Force meetings might also be reviewed through other mechanisms.

Interested applicants should contact the Task Force Manager to request application forms:

Dr Jane Kengeya-Kayondo  
 Manager  
 Task Force on Malaria Home Management  
 TDR, World Health Organization  
 Avenue Appia  
 1211-Geneva 27  
 SWITZERLAND  
 Tel: (+41) 22-791-3737/3738  
 Fax: (+41) 22-791-4774  
 E-mail: kengeyakayondo@who.int

<sup>1</sup> Since small-scale interventions with pre-packaged antimalarials at community level have been implemented only with chloroquine (CQ) as an antimalarial drug, only countries where chloroquine is the first-line drug are eligible for scaling-up studies.

<sup>2</sup> Measurement of impact on disease burden is optional.

## Annex 4

November 2000



UNDP/World Bank/WHO  
Special Programme for Research & Training in Tropical Diseases  
(TDR)

## CALL FOR APPLICATIONS

# Research projects for in-depth assessment of factors underlying mortality from childhood fevers

### Background

WHO/TDR has identified a need for more data on the management of febrile illness in the home. While much is known about treatment-seeking and use of medications, there are still gaps in our knowledge of crucial factors related to childhood mortality from malaria. Many studies have shown that mortality is related to socioeconomic and demographic factors, but the specific behaviours of caregivers that may be related to the outcome of an illness episode are not fully understood.

There is a complex chain of events from the child who is healthy to the child who dies. Potential points of intervention may be identified if there is a better understanding of this process. What symptoms do mothers/caregivers respond to? When is care sought from the health sector? What factors influence whether appropriate treatment actions are taken? Are there deaths that could have been prevented? Research into these questions will contribute to a better understanding of childhood illness and mortality.

The UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR) invites proposals to identify areas in the process of illness recognition, treatment-seeking, referral practices and treatment of childhood fevers that could serve as the focus for future interventions to promote improved malaria treatment in the community.

### Specific objectives:

- To develop a set of coordinated studies that will generate data to inform design of interventions to promote early and appropriate treatment of childhood fevers at the household and community levels.
- To improve the local capacity and networking to conduct operational research on risk factor identification and behaviour modification in relation to treatment of childhood fevers.
- To identify potential interventions for the reduction of malaria-related mortality in children.
- To assess the role of delay in treatment with antimalarials in malaria mortality.
- To study mothers' recognition of onset of illness, perceptions of symptoms indicative of severity, and factors underlying the actions taken.

### The following conditions apply:

- The research team should be multidisciplinary and include social scientists, health professionals and community development experts.
- The study design should include a retrospective investigation of probable malaria deaths in children under 5, with comparison of severe probable malaria cases and mild cases.
- The proposal should include a description of the current situation with regard to malaria, the health system, and current policies and practices with respect to home management of malaria.
- The final report should include recommendations for choosing and developing interventions.
- The proposal must include a thorough description of the workplan and methods as well as the potential ethical issues at each stage of the research.

- The onset of the symptoms and subsequent timing of important events should be carefully measured. The issues to be addressed in the analysis are:
  - the timing of onset of all symptoms.
  - timing of treatments.
  - detailed description of all actions and when they were taken.
  - whether treatments given were appropriate.
  - factors contributing to delay in treatment such as decision-making process within the household, poor condition of roads, lack of money.
  - contribution of delay in initiation of treatment to outcome.
  - how long after the appearance of symptoms do children die? Within 48 hours? After 72 hours?
  - are there points of intervention that were not considered previously?
  - are we dealing with an illness where there is a prolonged period with mild symptoms when it is readily treatable, followed by the appearance of severe symptoms when treatment has much less effect?
- Design issues might include whether quantitative or qualitative methods should be used, whether there are advantages to a 'mixed bag of approaches', or what type of study design is appropriate:
  - a retrospective/verbal autopsy epidemiological study that quantifies the importance of different causes of death?
  - an anthropological/social science (small-scale) study with interviews and observation of a small number of mothers?
  - a comparison of 'near misses' with cases of mortality? 'Positive deviant' mothers would be those whose children became very sick, but nevertheless survived. How would near misses be identified? Perhaps both prospective and retrospective components are necessary?
  - a prospective study? Are there ethical issues in conducting this type of study?
- Relationship to an intervention: Would it be a discrete descriptive study, or will it be a formative research study whose results will be used to design an intervention?
- Who will be the focus of the study? Typically we focus on mothers, but this may not be appropriate.
- What outcomes will be measured? Beyond malaria-related morbidity and mortality, the study might aim to examine:
  - unsafe injection practices.
  - use of (injectable) antibiotics for malaria.
  - compliance with a full course of therapy.
- What is the ideal study site?
- Have there been previous interventions in the area? What are the implications of this for the study?

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Interested applicants should contact the Task Force Manager to request application forms.

Dr Jane Kengeya-Kayondo (Manager)  
Task Force on Malaria Home Management  
TDR, World Health Organization  
Avenue Appia  
1211-Geneva 27  
SWITZERLAND

Tel: (+41) 22-791-3737/3738 ; Fax: (+41) 22-791-4774

E-mail: kengeyakayondo@who.int

## Annex 5



November 2000

UNDP/World Bank/WHO  
Special Programme for Research & Training in Tropical Diseases  
(TDR)

## CALL FOR APPLICATIONS

# Research projects for home management of urban malaria

The UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR) invites proposals for projects to describe home management of malaria in urban contexts in order to identify potential intervention points and approaches.

Urban malaria and the home management of malaria in urban settings is a neglected area of research in sub-Saharan Africa. There are several factors that make urban contexts different from rural contexts with regard to malaria home management. For example, in general, urban areas have greater health provider diversity, are socioeconomically and culturally more diverse, and operate under different governmental structures. Many of these factors influence methodologies, points and approaches for potential intervention.

### Broad aim

- To describe home management of malaria in urban contexts in order to identify potential intervention points and approaches.

### Specific objectives

- To describe and explain household level health-maintaining (preventative) and treatment-seeking behaviours including those surrounding drug use.
- To identify and map the range of health providers in the community, describe their existing practices (including drug prescribing), and investigate the factors affecting their behaviour.
- To investigate the quantity and quality of information on morbidity, mortality and drug resistance available from the range of existing providers and the broader government health administration.
- To explore existing information (including health) networks in order to identify potential channels for educational and support initiatives.
- To document the policy context and explore the stakeholder knowledge of, and attitudes towards, current policy that influences home management of malaria.
- To assess the feasibility of adapting current interventions of proven efficacy (either rural malaria interventions or interventions used for other diseases).

### Terms of reference

Proposed studies should aim to assist in the identification of specific points and approaches for potential intervention for improvement of home management of malaria in urban settings. The following criteria will need to be shown to be feasible in the intent and pre-proposal phases, and to be met in the final research phases, of proposals that are submitted:

- The study should involve collaboration between researchers (who may be located at a university or

government institution) and a local organization with experience or existing networks in the community (such as non-governmental organizations, consumer organizations, local government institutions).

- Development and implementation of the study should involve, within practical limits, key local stakeholders including government, academia, professional associations, and community groups.
- Potential replicability and sustainability will be important criteria for selecting projects. To document these features, the study team should collect data about actual activities carried out and the costing of all inputs.
- The proposal should describe how the project will contribute towards capacity building of knowledge and skills in the local context.
- Methodologies should include a detailed description of whether existing data collection tools will be used. If new data collection tools are to be used, a description of the way they will be developed should be provided.
- A plan for dissemination should be developed that involves key stakeholders including relevant government ministries, academia, professional associations, community groups, and local bilateral and multi-lateral institutions.
- The study definitions of 'urban' and 'malaria' should be described. There should also be a precise description of the demographic and socioeconomic status of groups who will be included in the study.
- The investigator should specify possible ethical implications of the study and how they will be tackled.
- The study should address issues of equity in access to health care.
- How high rates of population mobility will be addressed should be described in the study methodology.
- Investigators should specify how they will identify other health and development interventions operating in the project area, and possible modes of interaction.
- Investigators should site evidence that malaria is of concern to the local health system.
- Investigators should state the way in which the proposed study is expected to assist in identifying potential points of intervention or intervention approaches in urban settings.

The Task Force on Malaria Home Management will hold at least one full meeting per year during which it will update its workplan and review and recommend research proposals on a competitive basis. A meeting is planned for March 2001. Proposals should be submitted at least 3 months before a meeting. Proposals which are received between the main Task Force meetings might also be reviewed through other mechanisms.

Interested applicants should contact the Task Force Manager to request application forms:

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 Manager  
 Task Force on Malaria Home Management  
 TDR, World Health Organization  
 Avenue Appia  
 1211-Geneva 27  
 SWITZERLAND  
 Tel: (+41) 22-791-3737/3738  
 Fax: (+41) 22-791-4774  
 E-mail: kengeyakayondo@who.int

**Annex 6**

November 2000

**UNDP/World Bank/WHO**  
**Special Programme for Research & Training in Tropical Diseases**  
**(TDR)**

**CALL FOR APPLICATIONS****Research projects for strategies to improve referral practices for severely ill children**

The UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR) invites proposals for projects to develop ways of improving referral practices for severely ill children based on results of studies showing that, in Africa, children with severe malaria symptoms are invariably taken first to traditional healers.

Specifically, this is to:

- identify the social networks and patterns of referral for children with severe illness including malaria.
- map the location of traditional healers and their catchment areas.
- involve traditional healers in interventions to promote early referral for appropriate treatment of severe illness in young children.

**Who can apply?**

The principal investigator must be from a developing disease endemic country (DEC) and have documented experience in conducting research relevant to the study.

**How to apply**

The Task Force on Malaria Home Management will hold at least one full meeting per year during which it will update its workplan and review and recommend research proposals on a competitive basis. A meeting is planned for March 2001. Proposals should be submitted at least 3 months before a meeting. Proposals which are received between the main Task Force meetings might also be reviewed through other mechanisms.

Interested applicants should contact the Task Force Manager to request application forms:

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Task Force on Malaria Home Management  
TDR, World Health Organization  
Avenue Appia  
1211-Geneva 27  
SWITZERLAND  
Tel: (+41) 22-791-3737/3738  
Fax: (+41) 22-791-4774  
E-mail: kengeyakayondo@who.int

**Annex 7**

May 2000

**UNDP/World Bank/WHO  
Special Programme for Research & Training in Tropical Diseases  
(TDR)**

**CALL FOR APPLICATIONS**

## **Introducing new/alternative types and/or forms of antimalarial drugs in home management practices for malaria**

With the increasing threat of antimalarial resistance, new and alternative drugs have been introduced in control programmes and on the market without much consideration to how proper use of these drugs at the community and home levels could be maximized, particularly for the most vulnerable group, children below five years (see endnote;<sup>1</sup> personal communication: Dr. Peter Kazembe). There is a pressing need to define a strategy for introducing alternative drugs to ensure improvement in home management practices.

The UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR) invites proposals for projects to determine how the introduction of new/alternative types and/or forms of antimalarial drugs can be adapted for users and providers to ensure improvement in home management practices for malaria in children under the age of five years.

**Specific objectives**

- To develop improved methods for selecting and designing context-specific interventions based on adequate research in the formative stage.
- To build capacity for planning, implementation and data analysis, and draw implications for designing an intervention.
- To develop and recommend a strategy for improving home management of malaria when faced with changes in first-line treatment or the introduction of new antimalarials.

**Terms of reference**

- The principal investigator should preferably be a social scientist. The team should include a scientist or implementer with solid experience in community development work.
- The study should involve collaboration between researchers, relevant health managers, and facilitators with experience of implementing interventions in similar settings.
- The study design should include a formative and an intervention phase.

**Formative phase**

The formative research may use a combination of qualitative and quantitative methods in order to describe the context and the characteristics of innovation among providers and users, through:

- determining the important factors affecting innovative distribution/marketing of alternative types and/or forms of antimalarial drugs.
- determining the important factors affecting adoption or use of alternative types or forms of antimalarials by care-givers for home treatment of malaria in children under five.

- assessing the socioeconomic characteristics and epidemiological factors which influence user adoption of alternative antimalarial drugs.
- identifying early adopters of alternative antimalarials among providers and community members.
- identifying possible interpersonal and/or media channels, agents and processes to facilitate change in home treatment of malaria.
- identifying information and messages that can be used to encourage adoption of the alternative strategy.
- designing an intervention aimed at improving or accelerating adoption of treatment of malaria using an alternative or new drug in the home or community.
- involving social scientists, clinicians, health educators, the commercial sector and health workers.

### **Intervention phase**

The intervention should be planned and implemented together with those who would be involved in sustaining it, should it prove successful.

Having identified individuals (providers and community members) who have adopted the alternative strategy at an early stage, and the channels (interpersonal and/or media) which influenced them to change, the following should be considered:

- identification of channels (interpersonal and/or media) in the community which could be used to influence others (providers and community members) to change.
- how to involve the identified individuals in encouraging change (considering their status and reputation in the community, their credibility, willingness and availability to function as formal and/or informal 'change agents').
- identification of factors which work against or hinder providers and community members from adopting the alternative strategy, and identification of methods to overcome these constraints.
- development and implementation of an IEC strategy for communicating the alternative strategy to providers and community members, using participatory methods with the 'early adopters' as an important input. Sustainability and low cost should be major considerations.
- monitoring and evaluation of the inputs, outputs and outcome/impact of the project.

### **Possible outputs**

- Factors that affect adoption of alternatives by providers and users.
- Characteristics of innovators.
- Characteristics of channels which influence innovators.
- Processes of communication through which innovation is transmitted.
- Description of the rationale for adopting the intervention selected.
- Documentation and evaluation of the process of intervention including resources needed and financial costs.

### **Capacity building**

The project should include a capacity building component aimed at developing skills for researchers and project implementers to develop, implement and analyse good quality implementation research.

The following workshops can be conducted for the research/implementation teams:

- Protocol development workshop - including control counterparts/colleagues.
- Protocol formulation workshop.
- Skills development workshop (to be defined, based on needs assessment).

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 Fax: (+41) 22-791-4774  
 E-mail: kengeyakayondo@who.int

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<sup>1</sup> In Malawi there was a one-year lag period between the decision to effect the change of first-line drug from chloroquine to sulfadoxine/pyrimethamine (SP) and the actual 'launch' of the change. During this lag period, health workers were trained about the 'new treatment, the pharmaceutical industry was informed, IEC materials were produced for both health workers and the general public, the central medical stores procured enough SP for all the health centres for a period of about 6 months, and a contract was signed with a local retail chain distributor to procure SP from the central medical stores to sell at a discounted 'affordable' price through its outlets in trading centres including the rural areas. The idea was to make sure that, by the time of the official launch, the local shops and health centres should have some stocks of SP available so as to minimize 'panic' since the main message of the official launch was to be that chloroquine is no longer useful and that SP should be used instead for the home treatment of malaria. There was a high profile launch by the Minister of Health with a press conference explaining the reason behind the change. From the day of the launch, regular adverts were made on the radio explaining the policy change and also including the dosage regime for SP. Local agents for Fansidar and the other SP brands also bought their own adverts on the radio but they were all by prior agreement vetted by the malaria control programme to make sure that they were giving the same message as the programme. The Fansidar was then being advertised as Fansidar-SP. The idea was to make sure that the general public was not confused. A good portion of the general public was familiar with Fansidar because it was second-line drug and, as chloroquine efficacy diminished, the use of the second-line drug had become more common and therefore was well known. The Ministry could not promote SP as 'Fansidar' because the Ministry could not be seen to be promoting a specific brand. This obviously created problems of its own because, to many people, it appeared as if the Ministry had introduced a new drug rather than just 'moved' a second-line drug to a first-line position.

At the same time that SP was being launched, chloroquine was supposed to be withdrawn and reserved as a prescription only drug. There were some problems with this; firstly that a lot of people did not understand the concept of a brand name so that lots of mothers continued to buy the branded chloroquine even though they had the information that chloroquine was no longer effective and no longer recommended. They did not understand that the branded products were chloroquine. No doubt some drug outlets capitalized on this ignorance. The other problem was that, since chloroquine was not a banned drug, pharmacies could not be forced to take it off the shelf. The other problem with the SP launch was how best to deal with the issue of the perceived slow onset of effect of SP. This was dealt with by insisting on the use of antipyretics in addition to the SP. However, some confusion occurred because the radio and poster messages emphasized that SP is 'stronger' and therefore only needs to be given in a single dose. Some mothers were afraid to give this 'strong' drug to their younger children, feeling that it might be 'too strong'. The Ministry of Health health education musical band toured the country with messages to address some of these concerns. In addition, a number of drama groups were also contracted to educate communities about the change in policy. Now, 7 years after the changeover, there are still some misconceptions that need to be addressed. There are still mothers who bring their children late to hospital with severe malaria, even where they had access to SP, saying they feared SP. There are still a lot of issues that need to be studied regarding accessibility of SP at the household level and also, where accessible, why some mothers hesitate to give SP to their younger children who are at highest risk of dying from malaria. The answers to these problems may differ in Kenya or Tanzania, where the change has been recent, from Malawi, where the change was made more than five years ago.





WHO/TDR  
Avenue Appia 20  
1211 Geneva 27  
Switzerland  
Tel: (+41) 22-791-3725  
Fax: (+41) 22-791-4854  
E-mail: [tdrnews@who.int](mailto:tdrnews@who.int)  
Web: [www.who.int/tdr](http://www.who.int/tdr)