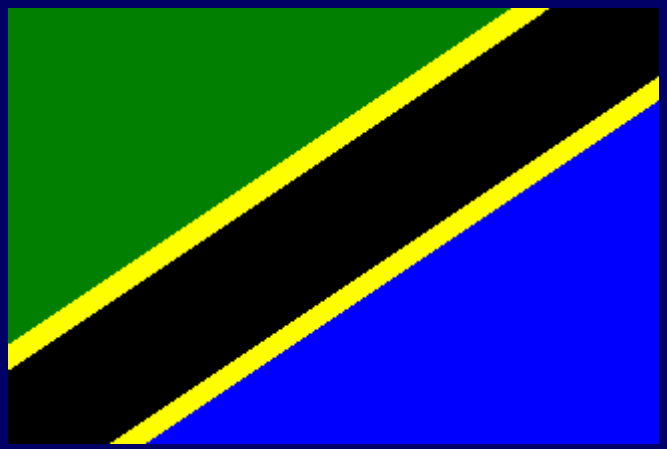
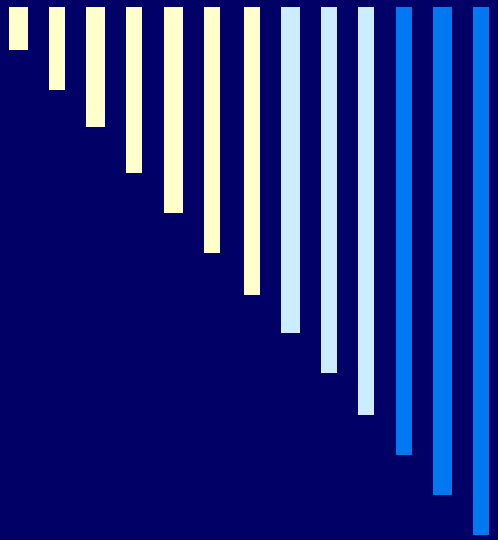
Challenges for Implementing Malaria Treatment Policy Changes in Tanzania: A Pilot Study in Temeke Municipality, Tanzania





American Public Health Association

2007 Annual Meeting & Exposition

Washington, D.C.

November 7, 2007

Collaborators

- [1]D.S.Tarimo, [1]M.T.Leshabari, [2]G.H.Maddox, [2]A.J.Shelton, [2]A.B.James, [3]S.McCurdy
- [1]Muhimbili University College of Health Sciences (MUCHS)
- [2]Texas Southern University (TSU), [3]University of Texas, School of Public Health (UT)

Collaborators

Outline

- Background
- Methods
- Results
- Conclusions
- Future directions

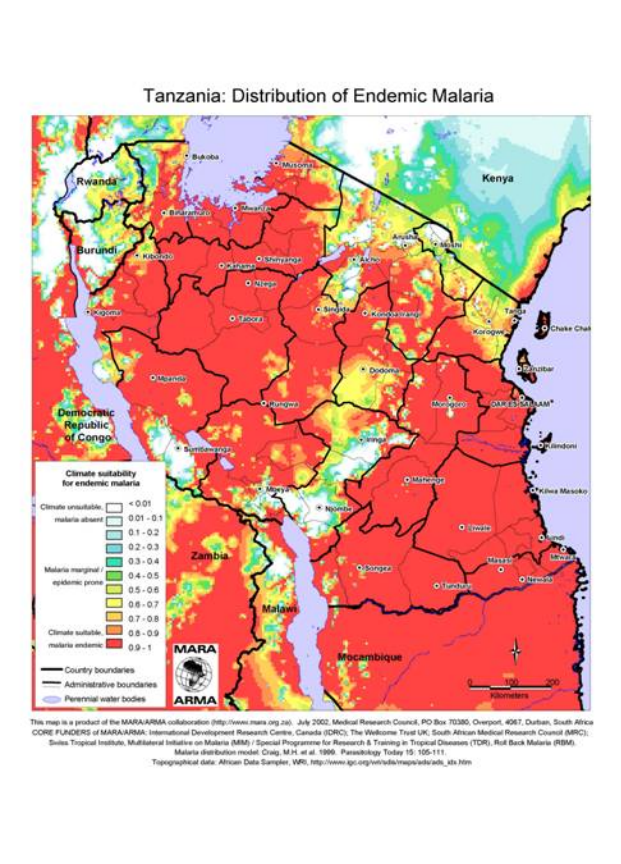
Background- Global picture

Malaria

- Serious public health problem, responsible for an estimated 300-500 million cases/year, 90.0% of these in SSA (WHO 2006).
- Each year, malaria kills 1.1 to 2.7 million people world-wide, about 1 million are young children (< 5 years) in SSA (25% child mortality rate).

Tanzanian situation

- Malaria is one of the major public health problems accounting for >30.0% of disease burden (MoH 2002).
- 14 to 18 million cases per yr with a mortality rate of 140 to 650 per 100,000 (underfives & pregnant ♀) most vulnerable.



Challenges to global malaria treatment

- Drug resistance
- Few drugs available, making development of effective policies difficult (WHO 2006).

Challenges to malaria treatment contd…

- Main reason for escalation of resistance to CQ and SP→ their use as monotherapy
- SP rapidly selects for resistance → short useful therapeutic life (UTL)
- UTL of SP → 5 years (EANMAT 2003, Talisuna et al.,2004, Myint et al.,2004).

Public Service Announcement about SP Use for Pregnant Women

Challenges to malaria treatment: solutions

- Use of ACTs → potential to delaying development of resistance to partner drugs (Kremsner & Krishna 2004).
- In African countries, ACT of choice is Artemether-Lumefantrine given as a six-dose regimen spaced over 3 days and given twice a day (WHO 2004).

Malaria treatment in Tanzania

- CQ drug of choice since 1950s; as of 1980s to 1990s efficacy rapidly declined and policy change was formulated in 2000.
- In Aug. 2001, SP became 1st line drug (MoH 2000). As expected SP maintained a short UTL and within 5 years a policy change was inevitable.
- The ACT, Artemether-Lumefantrine became 1st line treatment as of January 2006.

Problems associated with policy changes

- Change of policy may be complex if there are other familiar drugs (Shretta et al.,2000, Williams et al.,2004)
- The change from CQ to SP met with dissatisfaction, clients continued to demand CQ or drugs other than SP, contrary to guidelines (Tarimo et al.,2001, Manyilizu 2003).

Problems associated with policy changes

Barriers to change to Artemether-Lumefantrine (Alu):

- Choice of therapy → influenced by perceptions on efficacy, treatment seeking behavior & other factors (Heggenhougen et al., 2003).
- There is the need to understand the community factors associated with the acceptance of new malaria therapies.

Study objectives

To examine factors that influence community acceptance of new malaria therapies in Temeke Municipality, Tanzania.

- Recognition of malaria signs and symptoms and available therapy choices
- Factors influencing therapy choices
- Community awareness & acceptance of policy changes
- Preferred sources of information & communication about malaria

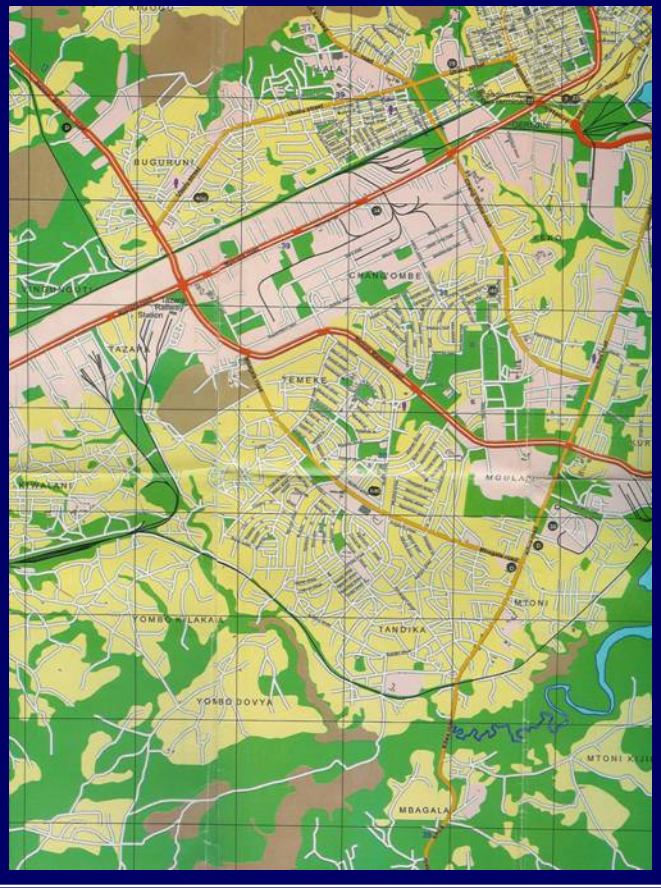
Methodology I: Study area

- Dar es Salaam – Divided into three municipalities: Temeke, Kiondoni, & Ilala
- Temeke municipality→ area of 786.5 km² in the coastal belt of Indian Ocean with intense perennial malaria transmission (MoH, 2002).
- Malaria → leading health problem in local area
- Responsible for 51.6% of outpatients' attendance and 49.6% admissions for all age groups (MoH 2002).

.

Study area contd….

- Temeke municipality→ low socio-economic indicators with rapid population growth & overburdened public health services.
- Administratively → divided into 3 divisions: Mbagala, Chang'ombe & Kigamboni; a total of 25 wards.
- The Mbagala Division selected for convenience.



Methodology II: Sampling Frame

- Stratified random sampling was used to select Wards, Sub-wards, Ten Cell leaders and households.

- A total of 400 households were targeted for the study. Only households with children under five years of age were eligible for this study.

Research Team in the Field

Methodology III: Data collection methods

Structured interview/survey to gather data on:

- Demographics, recognition of signs and symptoms & therapy choices for malarial disease
- Awareness & perceptions of policy changes
- Community involvement in the process and acceptance of policy changes & preferred channels of communicating malaria messages.

Indepth interviews with key informants to:

- complement the quantitative data

Results

Demographics I: 412 participants recruited

	#
Mean age (yrs)	30
Age range (yrs)	16-65
Females	365
Mothers of underfives	331
Average household size	5.2

Demograhpics II (N = 412)

	%
Head of Household (HH)	27.9
HHold with underfives	99.5
Reported age < 30 yrs	66.3
Preg woman in HHold	9.2
Literate (read & write)	65.8
Married	9.2
Income (petty business)	54.6
Income (others – peasants etc.)	15.0

Recognition of malarial symptoms (N = 412)

Adults	%	**Children**	%
•Fever	73.3	• Fever	88.6
• H/ache	63.6	• GI upset	61.4
• Jt aches	61.7	• No feeding	48.3
• GI upset	25.7	• Lethargy	46.4
• Muscle pains	22.6	• Fits	7.0
• Shivering	12.1	• Shivering	7.0
• Others	27.4	• Pallor	3.9

Available therapy choices

- At survey, SP→ most common drug (81.8%); others: Amodiaquine (35.4%) Quinine (25.5%), Artemisinin monotherapies (3.2%) and chloroquine (3.2%).
- Though malaria common, the majority (86.7%) of HHs did not keep malaria medications at home.
- Syrups were preferred for infants and children under 5 yrs.

Factors influencing malaria therapy choices

Household responses:

- Two thirds believed that childhood malaria required malaria drug
- 50.7% believed high fever caused convulsions
- 5.8% linked convulsions with severe malaria
- 24.3% believed that convulsions cannot be treated by modern medicines
- 29.6% believed convulsions would require traditional remedies

Duka la Dawa za Asili: Traditional medicine store

Community awareness & acceptance of policy changes

- At survey, SP had been in use for 5 yrs. Only 48.1% of HHs indicated that they supported the change of CQ to SP.
- Resistance as a reason for change was mentioned by less than a quarter (23.7%) of HHs.
- Reasons for not supporting change included adverse effects & belief that the previous drug (CQ) was still effective.

Pharmacy in local community

Preferred sources of information & communication about malaria

- The majority (81.9%) of HHs preferred to receive information on malaria from medical personnel.

- Radio was the preferred venue for communication (79.6%); followed by health facilities (39.6%); others: posters, fliers, newspapers, public meetings, & TV.

Shop selling bednets

Conclusions

- Disease recognition was high (high potential for uptake for an effective drug)
- 1st line drug (SP) not available in households (this has implications for home management)
- Formulation (syrup) for group at highest risk not available
- Traditional remedies were the preferred option for malaria with high fever and convulsions
- Prior policy supported, but not related to drug resistance
- Health workers, communicating through radio, cited as most effective source of information about malaria

Successes

- Surveys completed
- Data analyzed
- Identified potential and actual barriers to community acceptance of policy change

Constraints|Limitations

- Findings have restricted generalizability to Temeke in Dar es Salaam
- Study did not involve health workers (implementers)
- Challenges communicating findings to stakeholders

Future directions\Sustainability

- Solicit funds to complete study
- Evaluate uptake of ACT, recognizing identified barriers
- Expand research to include different endemic regions
- Share findings to inform policy makers of best practices and guide future policy changes

Acknowledgements

- The United Negro College Fund Special Programs (UNCFSP)
- United States Agency for International Development (USAID)
- Student Research Assistants
- Residents of Temeke Municipality

THANK YOU