Tanzanian Community Malaria Artemisinin-containing Therapy Project:
A Partnership for Implementation Research to Support Improved Home and Community Management of Malaria with Artemisinin-containing Combination Therapies

An International Development Partnership
Between
Texas Southern University
and
Muhimbili University College of Health Sciences, Tanzania
Sponsored by
UNCF SP
and
USAID

By Dr. Gregory Maddox

In March 2006, researchers from **Texas Southern University** and **Muhimbili University** College of Health Sciences, School of Public Health and Social Sciences jointly won support for a project designed to contribute to the reduction of the burden of malaria in the East African nation of Tanzania. The leaders of the project are **Drs. Gregory H. Maddox**, **Andrea Shelton**, and **Andrew James** from TSU and Professor L. T. Leshabari and Dr. Donath Tarimo of MUCHS. Dr. Sheryl McCurdy of the University of Texas Houston School of Public Health serves as an advisor to the project. Drs. Maddox and McCurdy each have over 20 years experience conducting research in Tanzania and are fluent in Kiswahili. Tanzania, a large African nation of almost 40 million people lying just south of the equator along the Indian Ocean, suffers greatly from malaria morbidity and mortality. People in the country suffer up to 18 million cases of malaria, which causes an estimated 100,000 deaths, mostly among children under five and pregnant mothers, each year. Due to the development of resistance to the main drugs used for treating malaria over the last 20 years, the burden of malaria has probably increased over the last decade. In the last decade or so, international health authorities have devoted increased attention to combating malaria. Our project focuses on one of the most promising new treatments for malaria to emerge in the last several years – artemisinin containing drugs derived from an ancient Chinese remedy using sweet wormwood. Therapies including artemisinin have proved very successful in Asia in combating malaria, and a large international coalition is supporting their widespread introduction in Tanzania and elsewhere in Africa.

1 Muhimbili University College of Health Sciences and Texas Southern University

The TSU/MUCHS partnership is designed to support the introduction of artemisinin containing therapies. In Tanzania, chloroquine – a miracle drug of the 1940s that helped reduce mortality from malaria across the globe – remained the treatment of choice until the year 2000. However, *Plasmodium falciparum,* the parasite that causes most malaria in Tanzania, developed resistance to chloroquine treatment much earlier. Mortality from malaria, especially among young children, probably began to rise in the late twentieth century. Alternative drugs often did not work as well. The most important alternative, fansidar, caused significant side effects in a number of people. As a result, people in Tanzania complained about and even resisted efforts to use other drugs.

2 Tanzania

Artemisinin has the ability to override these concerns. It has few recorded side effects, clears malaria parasites, and reduces symptoms, very rapidly. However, the World Health Organization has directed that artemisinin be paired with another anti-malarial drug in order to delay the development of resistance by *P. falciparum*. Towards this end, the Tanzania Malaria Control Programme has decided to introduce an ACT in one pill, and international donors, including USAID, are paying for a full, one year's supply of the drug. Efforts are being made to ban the sale of artemisinin alone to reduce the chance of the development of resistance.

3 "Traditional" drug store in Temeke District

Our study examines the social response to the changing recommendations for treatment of malaria in Tanzania. It uses surveys and interviews to ascertain people's views on new drugs and roughly measure the likelihood of compliance with the new drug regime. The findings will be disseminated through a developing collaboration with the USAID office in Tanzania and with public health officials in Tanzania. The pilot survey of one district in urban Dar es Salaam will be completed by October 2006. Support will be sought for an expansion of the project to cover more of the country, including rural as well as urban areas, and the period of the transition to the new treatment.

4 A Modern pharmacy in Temeke

Work on the project began in June of 2006 when Dr. Gregory H. Maddox, associate dean of the Graduate School at Texas Southern University, traveled to Tanzania to work with Professor L. T. Leshabari, former dean of the School of Public Health and Social Sciences at Muhimbili and Dr. Donath Tarimo of MUCHS. They were joined in July by Dr. Andrea Shelton of the Department of Health Sciences at TSU and by Dr. Sheryl McCurdy of the University of Texas Houston School of Public Health in July. Dr. McCurdy serves as advisor to the project and is an experienced health researcher in Tanzania. The team developed a plan for the survey, selecting Temeke District and then selecting four wards within the district for the survey. The team decided to focus on the populations most vulnerable to attacks of malaria. Researchers will interview in households with children under the age of five years old and/or pregnant women only. The team developed a questionnaire and a protocol for more detailed interviews for qualitative analysis. The team will hire students in the School of Public Health and Social Sciences at MUCHS to conduct the surveys, giving those students experience as researchers. The team then visited Temeke and the wards selected.

5 Sign urging expectant mothers to get treatment for malaria in Temeke District

The team also made contact with the USAID office in Dar es Salaam. USAID through the Presidential Initiative on Malaria, is a major sponsor of efforts to control the disease. Mr. Charles Llewellyn and Dr. William Krekamoo of USAID proved extremely interested in the project and promised assistance with dissemination of the findings and finding support for expansion of the project. We anticipate that the pilot survey will be complete by October and that preliminary results will be available for discussion by November. We hope to hold a major dissemination seminar in Dar es Salaam in January of 2007. We anticipate an expansion of the project to take place in early 2007. We have already identified potential districts in the country for the survey.

6 From left to right, Mr. Charles Llewellyn, USAID, Dr. Donath Tarimo, Muhimbili University College of Health Sciences, Dr. Andrea Shelton, TSU; Dr. Gregory Maddox, TSU; Prof. L. T. Leshabari, MUCHS; Dr. William Krekamoo, USAID. Not pictured are Dr. Andrew James and Dr. Sheryl McCurdy.

As an extension of this project, TSU is developing plans to involve students from TSU in our ongoing linkages with Tanzania. We are developing a month-long study abroad program focused on issues in international health in the developing world in Tanzania. The plan will work in conjunction with TSU's established study abroad program in Tanzania focusing on history and culture. Drs. Shelton and James will take the lead in developing this program. We will work closely with colleagues in MUCHS and the University of Dar es Salaam to develop this program.

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