PRESIDENT'S MALARIA INITIATIVE

FY 2007

Malaria Operational Plan (MOP)
TANZANIA

December 6, 2006

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ACRONYMS

<5MR	Under-Five Mortality Rate
ACT	Artemisinin-based Combination Therapy
ADDO	Accredited Drug Dispensing Outlet
AED	Academy for Educational Development
ALu	Arthemeter-lumefantrine
AMMP	Adult Morbidity and Mortality Project
ANC	Ante-Natal Care
AO	Acridine Orange
BCC	Behavior Change Communication
CA	Cooperative Agreement
CDC	Centers for Disease Control and Prevention
CEEMI	Centre for Enhancement of Effective Malaria Interventions
CHMT	Council Health Management Team
CORP	Community Resource Person
CSSC	Christian Social Services Commission
DfID	Department for International Development (U.K.)
DFP	District Focal Person
DMO	District Medical Officer
DOT	Directly Observed Treatment
DSS	Demographic Surveillance System
ELISA	Enzme-Linked ImmunoSorbent Assay
FANC	Focused Ante-Natal Care
FBO	Faith-Based Organization
FY	Fiscal Year
GDA	Global Development Alliance
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria
GOT	Government of Tanzania
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
IAMCC	Inter-Agency Malaria Coordinating Committee
IDSR	Integrated Disease Surveillance and Response
IEC	Information, Education and Communication
IHRDC	Ifakara Health Research and Development Center
ILS	Integrated Logistic System
IMCI	Integrated Management of Childhood Illness
IMP	Integrated Malaria Project
IMR	Infant Mortality Rate
IPTp	Intermittent Preventive Treatment in Pregnancy
IRS	Indoor Residual Spraying
ITK	Insecticide Treatment Kits
ITN	Insecticide-Treated Net
IVM	Integrated Vector Management
JICA	Japan International Cooperation Agency
JSI	John Snow, Inc.
LLIN	Long Lasting Insecticidal Nets
MEDA	Mennonite Economic Development Associates

MMTSP	Malaria Medium Term Strategic Plan
MOHSW	Ministry of Health and Social Welfare
MOP	Malaria Operational Plan
MSD	Medical Stores Department
MSF	Medecins Sans Frontieres
MVC	Most Vulnerable Children
NATNETS	National Insecticide Treated Nets Programme
NBS	National Bureau of Statistics
NGO	Non-Governmental Organization
NIMR	National Institute for Medical Research
NMAC	National Malaria Advisory Committee
NMCP	National Malaria Control Program
PEPFAR	President's Emergency Plan for AIDS Relief
PHL	Public Health Laboratory
PMI	President's Malaria Initiative
PPP	Public-Private Partnership
RBM	Roll Back Malaria
RCH	Reproductive and Child Health
RDT	Rapid Diagnostic Test
RNE	Royal Netherlands Embassy
RTI	Research Triangle Institute
SDC	Swiss Development Corporation
SES	Socio-Economic Strata
SP	Sulfadoxine-pyrimethamine
SPA	Service Provision Assessment
STI	Swiss Tropical Institute
TaNAAM	Tanzanian NGO Alliance Against Malaria
TASAF	Tanzania Social Action Fund
TBA	Traditional Birth Attendant
TDHS	Tanzania Demographic and Health Survey
THIS	Tanzania HIV Indicator Survey
TNM	Tanzania Net Manufacturer
TWG	Technical Working Group
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development
USG	United States Government
WHO	World Health Organization
WVT	World Vision Tanzania
ZAMRUKI	Zanzibar Malaria Research Unit of the Karolinska Institute
ZTC	Zonal Training Center
ZMCP	Zanzibar Malaria Control Program

PRESIDENT'S MALARIA INITIATIVE

Malaria Operational Plan (MOP)
FY 2007
TANZANIA

DRAFT October 4, 2006

EXECUTIVE SUMMARY

The President's Malaria Initiative (PMI) has been in operation in Mainland Tanzania and Zanzibar for approximately nine months. In that time, a myriad of activities have taken place; from indoor residual spraying (IRS) in the islands of Zanzibar to providing support to the Tanzania National Voucher Scheme (TNVS) in the Mainland to expand its reach to infants, to battling epidemics in the north of the country. These initial successes provide firm grounding for the expansion of PMI activities. This Malaria Operational Plan (MOP) presents the proposed work plan for PMI in Fiscal Year 2007 (FY07). Generally, the proposed activities are a continuation or expansion of interventions started during FY06 (e.g. expansion of target groups for the TNVS). Nonetheless, there are a few new activities and a slight shift in emphasis in others (e.g. increased attention to behavior change). This MOP corresponds to the FY07 funding cycle, and will cover activities for approximately one year after funding is received. Because the United Republic of Tanzania has two ministries of health and social welfare—one for Mainland Tanzania and one for Zanzibar—most activities in this MOP are separately addressed. When referring to the whole of the country the terms United Republic of Tanzania or simply Tanzania is used. To refer to a part of Tanzania, the term Mainland will be used to refer to the part of the country that is in the continent and Zanzibar islands or Zanzibar to refer to the Zanzibar archipelago (Unguja, Pemba, etc.). In both cases the highest health authority is the Ministry of Health and Social Welfare (MOHSW).

A total of US $ 27 million is sought for both Mainland and the Zanzibar Islands. Approximately US $24,017,000 is for the Mainland and US $2,983,000 million for Zanzibar. These figures translate into a total expenditure per capita of US $ 0.78 for Tanzania, of which US $0.67 is the average for Mainland and US $2.9 for Zanzibar. The commodity portion content of the budget is 52%. Of the total, 79% goes to preventive activities, 11% to curative, 6% to monitoring and evaluation and 4% to management and administration.

Although some early funding was made available, PMI FY06 activities did not start in earnest until the approval of the first work plan in December 2005. Furthermore, other activities could not begin until FY06 funds were received and transferred to the appropriate parties on or about April – May 2006. PMI has achieved remarkable success in Tanzania in the short time it has been in operation.

PMI's strategy in Tanzania is to complement resources from the host government, Global Fund to Fight AIDS, Tuberculosis and Malaria (GFTAM) and other donors—including non-governmental and faith-based organizations. Instead of establishing vertical programs that fund a small number of activities, PMI – Tanzania has chosen to cut across malaria interventions so that we integrate ourselves effectively into the whole of malaria activities in

the country. This approach is welcomed by government and counterparts as it allows them to link actions and resources. This integration, however, comes at a cost in programmatic complexity. Our approach demands thorough and up-to-date knowledge of the funding streams and activities of other donors, extensive coordination and open and transparent communication. Our approach also means that there is a certain level of inter-dependency with other donors. Nowhere is this last issue more important that in the link with GFATM in relation to insecticide-treated nets (ITNs) activities on the Mainland. Therefore PMI activities and budget may need to be modified as circumstances change and funding from different streams change.

Major areas to be funded by the FY 2007 PMI include the following:

A. PREVENTION	
Malaria in Pregnancy	$1,800,000
Insecticide-Treated Bed Nets	13,950,000
Behavior Change Communication	2,670,000
Vector Control/Indoor Residual Spraying	3,050,000
Subtotal Prevention	$21,470,000
B. CASE MANAGEMENT	
Rapid Diagnostic Tests	$765,000
Artemisinin-based Combination Therapy	1,855,000
Management of Severe Malaria	390,000
Subtotal Case Management	$3,010,000
C. MONITORING AND EVALUATION	$1,541,000
D. ADMINISTRATION	$975,000
Total	$27,000,000

2. MALARIA SITUATION[1]

The malaria situation in Tanzania was showing signs of improvement even before PMI. The Tanzania Demographic and Health Survey 2004 – 2005 (TDHS)[1] showed a significant decline in infant mortality in the last five years. The infant mortality rate (IMR) declined from approximately 100 per 1000 live births in 1999 to 68 per 1000 live births in 2004. Given that a substantial portion of infant mortality has been attributed to malaria, it is reasonable to conclude that the reduction in IMR is due, at least in part, to a reduction in malaria-specific mortality in infants. Unfortunately it is difficult to quantify with the data available how much of the reduction in IMR is in fact due to a reduction in malaria-specific mortality. The IMR gains, however, are not equal across all socio-economic strata (SES). Whereas those cohorts classified in the richest SES quintile achieved an IMR of 64 per 1000 live births, the lowest SES quintile had an IMR of 88 per 1000 live births. These data suggest that, for the most part, the "low hanging fruit" is now greatly reduced in Tanzania and further gains in infant mortality will need to come from intensified efforts to reach those living in rural areas and the lowest SES. Similarly, the under-five mortality rate (<5MR), the GFATM's principal indicator of success against malaria, showed a decrease from 156 death per 1000 five years ago, to 112 per 1000 presently.

Activities funded by the United States Government (USG) in Rufiji District in Tanzania since 2001 provide an example of what is achievable with PMI funding. The United States Agency for International Development (USAID) and the Centers for Disease Control and Prevention (CDC), in collaboration with the Council Health Management Team (CHMT), the American and Tanzanian Red Cross and others, have provided funding and technical assistance to the Rufiji CHMT to implement prompt treatment of malaria, intermittent preventive treatment of malaria in pregnancy, and the use of insecticide-treated bed nets. The results have been substantial—58% of children under five with fever are treated with an appropriate anti-malarial drug within 48 hours, almost 61% of pregnant women in the last two years have received two doses, as recommended for intermittent preventive treatment in pregnancy (IPTp), of sulfadoxine-pyrimethamine (SP) and 62% of pregnant women and 57 % of children under five sleep under a bed net that has been treated with an insecticide in the last 6 months. These results are close to or have exceeded the 2005 and 2007 Abuja targets. These impressive gains have resulted in a 48% decrease in the prevalence of malaria infection in the overall population and almost 50% decrease in the rate of all-cause mortality in children under five years of age. It is our expectation that scale up of the PMI interventions, combined with existing interventions funded by GFATM and other donors will result in similarly impressive results nationwide.

Just as notable are the early results of the GFATM-PMI-supported malaria-control interventions in Zanzibar. An assessment of cases attributed to malaria attended at public health facilities in Unguja and Pemba showed a 23% decline from a year ago. When translated into absolute numbers, the achievement becomes even more significant—health workers saw, in May 2006, 7,706 fewer cases of malaria than in the same month one year ago. Four thousand of those fewer cases were among children under five. The main difference between May 2005 and May 2006 is that the distribution of long lasting insecticidal nets (LLINs) to all pregnant women and children under five has been completed.

[1] For a complete report on the malaria situation the reader is directed to the Tanzania Rapid Assessment on the PMI website.

If one considers that roughly 5% of children under five go on to develop severe or fatal illness, it can be said that about 194 children under five were saved---in a single month! Although these data are prone to underreporting, PMI resources will support more comprehensive monitoring and evaluation to confirm these promising trends.

Tanzania is a high profile country for PMI, one that is recognized more and more by international agencies and activists. In the 9 months since the inception of PMI, several dignitaries and activists have visited Tanzania. United States Congresswoman Betty McCollum (Minnesota, 4th District) and Bono, of U2 fame, among others, have visited Tanzania to assess the health and poverty situation in general and the impact of malaria in particular. Of special interest has been the manufacturing of LLINs and the Mainland's national voucher scheme (see below). Most recently, Mr. Paul Wolfowitz, President of the World Bank, visited Tanzanian programs and sites, including the GFATM-PMI-supported Tanzanian National Voucher Scheme (TNVS). Mr. Wolfowitz was so impressed with the scheme that it is now featured in the World Bank Tanzania website.

In spite of signs that the malaria situation is improving, there are still areas of concern. The recent TDHS, conducted in 2004 before PMI intervention, spells out some indicators of concern. Although ownership of ITNs was moderate (45.9 % in Mainland and 64.9 % in Zanzibar), the percentage of children under five sleeping under an ITN was only 15.9% in the Mainland and 21.7% in Zanzibar. Use of nets by pregnant women was 15.4% in the Mainland and 19.6% in Zanzibar. The TDHS further reported that 52.8% of pregnant women in the Mainland received at least one dose of SP for IPTp, but, two doses, the national guideline, were received by only 21.9%. In Zanzibar the situation is even worse—25.7% of pregnant women received at least one dose and only 13.8% received two or more doses. Currently, 93 % of the population continues to be at-risk for malaria, including about 25% who are at risk for epidemic malaria.

3. MAINLAND AND ZANZIBAR MALARIA CONTROL PROGRAMMES

The Government of Tanzania (GoT) has well established malaria control programs in the Mainland and Zanzibar. The National Malaria Control Programme (NMCP) serves the Mainland while the Zanzibar Malaria Control Programme (ZMCP) serves Zanzibar. Mainland Tanzania and Zanzibar (which includes the islands of Unguja and Pemba plus a few other smaller islands) have separate ministries of health and for practical purposes their respective programs are independent and may, in some areas, differ somewhat. Essentially, for malaria control purposes, there are two "countries" within the United Republic of Tanzania; the Mainland with approximately 35 million inhabitants and Zanzibar with one million population.

For the NMCP, the principal aim is to reduce mortality and morbidity due to malaria in all 21 regions of the mainland by 25 % by 2007 and by 50 % by 2010. For Zanzibar, the targeted reduction is by 35 % by 2008. Both ministries of health use similar strategies to deal with malaria, namely: appropriate management of febrile episodes in homes and health facilities (in the case of health facilities treatment is with ACTs), protecting pregnant women against malaria by using IPTp, vector control which includes encouraging populations at risk to sleep under ITNs and, in the case of the Mainland, prompt recognition and response to epidemics (Zanzibar is not prone to epidemics). Larvicidal interventions are being carried out in the Mainland while indoor residual spraying (IRS) is part of current policy both in the Mainland

and Zanzibar. Specific objectives, following the recommendations of RBM, have been set for all interventions by the Mainland and Zanzibar malaria control programs

Over the past year, the Mainland NMCP has issued a number of new documents and guidelines. Foremost are the National Guidelines for Malaria Diagnosis and Treatment 2006 (Malaria Control Series 11). The new guidelines include a number of additions, including the management of malaria epidemics, pharmaco-vigilance and malaria and human immunodeficiency virus (HIV) co-infection. All recommendations are in accordance with World Health Organization WHO-Roll Back Malaria (RBM)—recommended guidelines.

Operationally, the Mainland strategy involves demand creation through behavior change communication (BCC), implementation of the Integrated Management of Childhood Illness (IMCI) strategy in households and communities, training of private vendors for improved distribution of ITNs, use of a subsidized voucher system for biologically vulnerable groups to make ITN ownership less expensive, establishment of early warning systems for malaria epidemics, and use of IPTp and ITNs by pregnant women. In Zanzibar, LLINs are distributed free to high-risk groups while in the Mainland users pay a minimal fee to top off the voucher value (given to pregnant women during ante-natal visits). Current guidelines include spraying with insecticides when there is an epidemic in the Mainland. In Zanzibar, where spraying has been done before, the ZMCP has reinstituted their IRS program with PMI funding. Home treatment of malaria is encouraged but not overtly promoted in the Mainland. Most work of the NMCP and ZMCP is through direct support to districts with training and technical assistance, guidelines and, in some cases, financial support. Regions and districts in the Mainland and Zanzibar are responsible for programming their own malaria activities.

To coordinate and direct actions, the NMCP and ZMCP have established various committees and task forces. In the Mainland, the National Malaria Advisory Committee (NMAC) meets twice a year, at least in principle. Its purpose is to offer to the NMCP state-of-the-art technical advice on malaria control. The Inter-Agency Malaria Coordinating Committee (IAMCC), of which PMI is a part, in the Mainland was set up to coordinate with RBM partners on issues of planning, monitoring and evaluation and funding. It is supposed to meet three times a year, but it continues to be non-functional. For the Mainland, there are four committees that deal with the various aspects of the program, namely: case management, vector control, monitoring and evaluation, and information, education and communication (IEC). Only the case management and monitoring and evaluation committees, however, meet with any regularity. ITN strategy is coordinated through the National Insecticide Treated Nets (NATNETS) Programme. As may be expected, coordination is considerably more complex in the Mainland than in Zanzibar.

A gap analysis conducted in preparation for the GFATM Round 6 proposal in the Mainland, shows serious financial deficiencies in a number of programmatic areas in the short and long term. The NMCP estimates that between 4.1 to 5 million cases of fever per year in children under five in the period 2007 – 2011 will not receive appropriate treatment because of financing gaps. This is even when potential PMI funding (500,000 – 1 million doses) is taken into account. Similarly, financing for treatment in Accredited Drug Dispensing Outlets (ADDOs) will suffer a deficit of 3 million doses in 2007 with a gradual decline to 514,146 doses by year 2011. In spite of the fact that PMI support for about 500, 000 rapid diagnostic tests (RDTs) per year is anticipated, an increasing deficit will be registered of between 1 – 6.5 million tests during the years 2007 – 2011. Table A summarizes these and other gaps in the

introduction, maintenance, and expansion of NMCP interventions. These figures already take into account PMI contributions of between $25 to $30 million per year.

Table A: Projected Financial Gaps of NMCP Programming in Mainland Tanzania by Year

2007	2008	2009	2010
$41.5 million	$21.75 million	$25 million	$50.2 million

Government contributions to the overall NMCP budget will gradually increase from $2 million in 2004 and 2005 to an expected input of $5.5 million by 2010. Taking year 2007 as an average year, the government contribution will be approximately 7.5 % of the total amount needed to control malaria and increasing by 2010 to 8.4 % of the total. These figures do not contemplate amounts solicited from the GFATM Round 6.

4. OVERVIEW OF EXISTING PARTNERS' ACTIVITIES AND ROLES

The NMCP and ZMCP work in partnership with a variety of institutions, collaborating agencies and Non-Governmental Organizations (NGOs). Presently, partners include WHO, United Nation's Children's Emergency Fund (UNICEF), United Kingdom's Department for International Development (DfID), Royal Netherlands Embassy (RNE), Japan International Cooperation Agency (JICA), Swiss Development Cooperation (SDC), Italian Cooperation, Medecins Sans Frontieres (MSF)-Spain, Development Cooperation Ireland (DCI), CDC and USAID. Support is also received from the National Institute for Medical Research (NIMR), the Ifakara Health Research and Development Center (IHRDC), Kilimanjaro Christian Medical Centre and Centre for Enhancement of Effective Malaria Interventions (CEEMI) financed by the Bill and Melinda Gates Foundation and others. The relative emphasis of the different actors is summarized in Table B. Generally, partners have not changed since the FY06 PMI work plan and are expected to continue for the foreseeable future.

From the financial point of view, the most important partner to the NMCP and ZMCP is the GFATM. PMI is the second most important source of funding. The GFATM, in rounds one and four, granted $19,827,716 ($13,217,306 disbursed) and $54,201,787 ($18,575,572 disbursed) respectively to the Mainland for support of ITNs and purchase of ACTs. The total disbursed to date in both grants is $31,792,878 (August 2006). Zanzibar also received grants in rounds one and four, $1,153,080 (all disbursed) and $9,586,972 ($3,859,647 disbursed) respectively for purchase of ACTs and support of ITNs.

The Mainland has submitted a Round 6 application for malaria to the GFATM. The application takes into consideration the potential PMI contributions to the overall fight against malaria in the Mainland. The activities in the Round 6 GFATM application are: 1) extension and expansion of the TNVS to include newly pregnant women (1.25 million individuals per year) and complementing PMI's Infant Voucher activity with a voucher for all remaining under fives issued through mass campaigns. Included in this activity is the implementation of a communication and behavior change strategy for ITN that is complementary to PMI's own proposed actions; 2) support to a public-private partnership (PPP) that will make ACTs available through Accredited Drug Dispensing Outlets. Again this activity is linked to the PMI's support for ADDOs; 3) improve case management of uncomplicated malaria in public health facilities as well as improving the care of severely ill children. This activity will include the introduction of RDTs in all public health facilities,

enhancing the quality of microscopy and the training of health workers and improvement of referral system. These proposed actions, once more, link to PMI's FY06 and FY07 activities that helped introduce RDTs and sought the improvement of management of the severely ill child; 4) improving NMCP's monitoring and evaluation capacity. This activity includes the implementation of more rigorous monitoring and evaluation by employing such methods as health facility, household and sales-level surveys as well as conducting operational research and qualitative investigations. PMI FY07 work plan supports an extensive monitoring and evaluation component that is part and parcel of the GFATM proposal. The total funding requested from GFATM is $177,020,066 over 5 years—of which, 50 % is for ITN activities, 27 % for public-private partnerships (ADDOs), 16 % for case management and 6 % is for quality assurance and monitoring and evaluation. ZMCP did not submit a Round 6 proposal to the GFATM.

Table B below shows collaborating agencies that support the NMCP and the ZMCP and the technical interventions that are supported. Some agencies provide long-term technical assistance on the ground (Italian Cooperation, USG) while others support specific activities. Some, like the World Bank, provide overall budget support to the MOHSW so they may be considered to be involved in all aspects of malaria control.

Table B: Main Malaria Donors to NMCP and Areas of Support

Agency	Diagnostics	ACT	ITNs			IPTp	IEC Other	IRS
			ITN Cell	ITNs Purchase	ITNs IEC			
DFID				●	●			
GFATM		●		●	●			
JICA	●			●				
Irish Aid*			●	●	●			
Italian Cooperation	●	●	●	●	●	●	●	
Royal Netherlands Embassy				●	●			
Swiss Cooperation			●		●			
USG/PMI	●	●		●	●	●	●	●
WHO***	●	●			●	●	●	
UNICEF				●	●			

*Irish Aid ended in December 2005
**The Italian Cooperation provides a full time malaria professional who works in all areas of the NMCP and ZMCP.
***WHO support is limited to technical assistance

JICA, through its Integrated Malaria Project (IMP) in the Mainland, is supporting the improvement of diagnosis or malaria in health facilities through the use of the Acridine – Orange (AO) method microscopy in 13 districts. Also, IMP is introducing a state-of-the art training course for the nursing care of malaria patients. This course is complementary to the ACT roll out training supported by PMI. Support from JICA is anticipated for another 2 years. The total yearly contribution to the NMCP (to 2009) is approximately $450,000.

The Italian Cooperation is another important donor in malaria programming in the Mainland, providing on-site full-time technical assistance to issues of diagnostics, therapeutics, planning and monitoring and evaluation. The budget contribution will be an average of $360,000 per year for the period 2006 – 2010.

The United Kingdom's Department for International Development and the Royal Netherlands Embassy have provided funds to purchase insecticide treatment kits (ITKs) which are bundled with all nets sold in the Mainland. However, such funding is set to end in September 2006, at which time a review of the program will clarify whether the support will be extended. Presently, PMI is scheduled to pick up funding for the long lasting insecticide KO TAB 123. Additionally DfID and RNE provide support for the social marketing of bed nets. This support is also set to end by September 2006. The total contribution from the DfID and RNE alliance is US $3.5 million per year for the period 2004 – 2007.

The Swiss Development Corporation and Development Cooperation Ireland support the Mainland's ITN cell within the NMCP by supporting salaries and activities of key staff, plus technical support from the Swiss Tropical Institute (STI)—including one ex-patriate expert. Funding from the SDC will average around $420,000 per year.

The World Bank does not directly fund malaria activities in the country. Rather, its resources are put into basket funding for general support of the MOHSW. Such resources address critical problems that other donors do not fund (e.g. human resources).

In addition to the above, there are several hundred NGOs and faith-based organizations (FBOs) working in different aspects of malaria. Many of these organizations are grouped into two umbrella NGOs—the Tanzanian NGOs Alliance Against Malaria (TaNAAM) and the Christian Social Services Commission (CSSC). Some data suggest that up to 40 % of primary care services are provided by NGO and FBOs.[2] In rural areas this estimate can reach 60 % or more. Given their ubiquity and breadth of capacity, NGOs and FBOs are important partners in rolling back malaria in Tanzania. The Mennonite Economic Development Associates (MEDA) and World Vision International (WVI) are FBO contractors on the voucher scheme.

5. OVERVIEW OF EXISTING AND RECENT ACTIVITIES AND ROLES OF UNITED STATES GOVERNMENT

Since 2001 the United States Centers for Disease Control and Prevention (CDC) has operated a malaria program in Mainland Tanzania through a cooperative agreement (CA) with the Ifakara Health Research and Development Centre, operating at $800,000 in FY 2007, funded by USAID/ Washington and CDC. A resident epidemiologist (Dr. S. Patrick Kachur) has been seconded to IHRDC since October 2002. The focus of the program is to provide NMCP and its partners with evidence of the effect of current and potential malaria control strategies. The program includes a five year pilot evaluation of artemisinin-based combination therapy for routine treatment of malaria in one district with intense malaria transmission. To date, more than 1,000,000 ACT treatments have been delivered in Rufiji District and a multidisciplinary evaluation is providing evidence for best practices in support of rolling out this intervention nationwide. As was mentioned in the introductory paragraph, early evidence suggests important impact on malaria morbidity and mortality. The evaluation also includes direct support to demographic surveillance systems (DSS) in Kilombero, Ulanga and Rufiji districts covering more than 180,000 people and representing the single largest population under continuous demographic surveillance in sub-Saharan Africa.

[2] Personal communication Christian Social Services Commission

In FY2006, CDC contributed $100,000 to adapt DSSs to better evaluate maternal and perinatal mortality. CDC operates 3 sentinel sites assessing the efficacy of anti-malarial treatment and has funded a longitudinal cohort evaluation of alternative ACT regimens. CDC provided technical support for the MOHSW's Integrated Disease Surveillance and Response (IDSR) program which records facility-based cause-specific morbidity data useful for tracking diseases of epidemic potential (including malaria in epidemic-prone settings).

USAID/Tanzania's recent non-PMI malaria implementing partners include the ACCESS project, managed by JHPIEGO, which focuses on malaria in pregnancy; the T-Marc project managed by Academy for Educational Development (AED) focusing on social marketing and communications; the DELIVER and TASC II projects managed by John Snow Incorporated (JSI) led by a malaria program advisor (Dr. R. Salgado) and drug management and logistics systems; and the Ministry of Health via the Zonal Training Centers (ZTC) in Arusha and Iringa regions. The ACCESS Project includes activities in focused ante-natal care (FANC) which includes IPTp, communications, and collaborative support for the Malaria/IMCI District Focal Persons (DFP) training program of the MOHSW via the Center for Enhancement of Effective Malaria Interventions (CEEMI), as well as support for improved drug management and logistics capacity.

In Zanzibar, CDC Tanzania provided technical guidance to ZMCP in developing interventions to support the roll out of ACT on the islands in 2003. It also supported a baseline survey in sentinel communities prior to the introduction of the new therapy. CDC and IHRDC also provide technical support to the Zanzibar Malaria Research Unit of the Karolinska Institute (ZAMRUKI).

USAID/East Africa and core funding has supported the Academy for Educational Development's NetMark Plus Project to transfer the technology to African bed net manufacturers to produce long lasting insecticide treated bed nets using an insecticide which will last for at least twenty wash cycles. This is vastly superior to the previous insecticide treatment, which required users to re-treat bed nets upon purchase and every three months thereafter. Studies consistently show that while consumers usually treat their nets initially, they usually do not retreat the nets as required to keep them efficient.

Finally, the PMI is closely coordinating with the President's Emergency Plan for AIDS Relief (PEPFAR) on areas of technical overlap such as IPTp for pregnant women, logistics and systems strengthening issues and mechanisms to identify vulnerable children and families.

6. GOAL AND TARGETS OF THE PRESIDENT'S MALARIA INITIATIVE (*by 2010)*

Goal and targets apply for both the Mainland and Zanzibar, except where noted.

Goal

The goal of the PMI is to reduce malaria-associated mortality by 50% compared to pre-initiative levels in all PMI countries.

Target

By the end of 2010, PMI will assist (each country) to achieve the following targets in populations at risk for malaria:

- >90% of households with a pregnant woman and/or children under five will own at least one ITN;
- 85% of children under five will have slept under an ITN the previous night;
- 85% of pregnant women will have slept under an ITN the previous night;
- 85% of houses in geographic areas targeted for IRS will have been sprayed;
- 85% of pregnant women and children under five will have slept under an ITN the previous night or in a house that has been sprayed with IRS in the last 6 months;
- 85% of women who have completed a pregnancy in the last two years will have received two or more doses of IPTp during that pregnancy;
- 85% of government health facilities have ACTs available for treatment of uncomplicated malaria; and
- 85% of children under five with suspected malaria will have received treatment with an anti-malarial drug in accordance with national malaria treatment policies within 24 hours of onset of their symptoms.

7. EXPECTED RESULTS – FY 2007

PMI will measure progress toward achieving these coverage levels through several mechanisms. Mortality impact and intervention coverage can best be measured with representative household surveys like TDHS. Unfortunately TDHS will not be repeated until 2009. However, there will be an opportunity to include questions about malaria indicators in the Tanzania HIV Indicators Survey in mid-2007. Both NMCP and ZMCP also conduct biannual RBM coverage surveys as recommended by WHO –Africa Region (AFRO). These are more rapid and less statistically representative than TDHS or the MERG malaria indicator survey. These surveys will be repeated in 2007 and will be used to help estimate progress toward PMI targets for ITN ownership and use, coverage of IPTp, and prompt effective treatment of childhood fevers. Both NMCP and ZMCP have requested PMI support to complete RBM coverage surveys at household and facility level in 2007. Additionally, there are opportunities that can provide further verification of malaria indicators such as the recent (2006) Service Provision Assessment (SPA) that includes facility-based process indicators.

Key outcomes and their targets to be measured in 2007 surveys are listed in Table C and include:

Table C: Targets for changes in selected indicators for PMI countries*

Country	2 dose IPTp		ITN use(<5's)		ITN use (Pregnant women)		IRS (targeted houses)		Febrile children receiving ACT	
	2005	2007	2005	2007	2005	2007	2005	2007	2005	2007
Tanzania: Mainland	22%	50%	16%	40%	15%	55%	0%	85%	<1%	40%
Zanzibar	14%	40%	22%	80%	26%	80%	0%	85%	36%	70%

*Baseline Coverage estimates in this table are drawn from the 2004/2005 Tanzania Demographic and Health Survey. Indicative 2007 coverage estimates will be taken from the DHS malaria module which will be incorporated into the Tanzania HIV Indicators Survey that will be conducted in mid-2007. However, these estimates will not account for a full year of funding. Therefore, the actual 2007 impact will be measured by the planned Malaria Indicator Survey in 2008.

The targets listed below specify the rate of change expected in each indicator.

Prevention:

- Proportion of pregnant women who receive two or more doses of IPTp during their pregnancy will increase on the Mainland by 127% and by 186% on Zanzibar (as measured by household survey recall of woman pregnant within the previous 2 years).
- Proportion of children under five sleeping under an ITN the previous night will increase by 150% above the baseline for Mainland and increase by 263% for Zanzibar (as measured by recall of caretakers of children under 5 in household surveys).
- Proportion of pregnant women sleeping under an ITN the previous night will increase by 266% above the baseline for Mainland and by 201% on Zanzibar (as measured by recall of currently pregnant women in household survey).
-
- The percentage of houses targeted for IRS that are sprayed on the Mainland will increase from 0 to 85% and for Zanzibar from 0 to 85% (as measured by tracking spray teams' plans and completed activities).

Treatment:

- First-line treatment for malaria with ACTs will be implemented in health facilities in 80% of districts nationwide on Mainland Tanzania and at least 40% of children under five with suspected malaria will receive an ACT during their illness (based on caretaker's recall within the past 14 days collected in household surveys).
- On Zanzibar, where ACT has been recommended as first and second line treatment for malaria since 2003, the proportion of febrile children who receive an ACT will increase by 94% compared to 2005 to 70% (based on caretaker's recall within the past 14 days collected in household surveys).

8. PLANNED ACTIVITIES AND EXPENDITURES

A total of $27 million is requested for FY2007 PMI activities in Mainland and Zanzibar. Approximately 52 % will be expended on commodities—ITNs, IRS, RDTs and ACTs. Because of the desire by both the NMCP and ZMCP to rapidly scale up a number of activities and the need to provide continuity, early FY07 money totaling $4,500,000 will be required by December of 2006. These resources will provide start up or continuity funds for IRS in Zanzibar, IRS in Mainland, IPTp in Mainland, first round of household surveys for evaluation of voucher scheme and larviciding in Mainland.

As was done in FY06 planning, a consultative process was followed both in Mainland and Zanzibar to develop the FY07 work plan. Several meetings with NMCP and ZMCP were held to consult on their needs and priorities and to coordinate with other sources of funding

such as the anticipated Round 6 GFATM proposal. Then, consultative meetings were held in Mainland and Zanzibar with development partners, malaria scientists, the private sector and NGOs and FBOs. Interested parties presented ideas and proposals for addressing malaria needs. After the consultative meeting, a series of meetings were held with NMCP and ZMCP officials to negotiate and decide the best use of potential FY07 PMI resources. Additionally, PMI staff consulted NMCP and ZMCP reports, work plans, budgets and the GFATM Round 6 proposal to ensure that activities were evidence-based and resources complementary.

8.A. INTERVENTIONS – PREVENTION

8.A.1 INTERMITTENT PREVENTIVE TREATMENT IN PREGNANCY (IPTp) - Mainland

Training facility-level RCH service providers in malaria in pregnancy interventions

Current Status

Current NMCP policy for IPTp is two doses of Sulfadoxine-Pyrimethamine (SP) given as directly observed therapy at 20 – 24 weeks and 28 – 32 weeks gestational ages. Ninety four % of pregnant women are seen at least once at ante-natal care (ANC) services and 62 % are seen at least four times, but, according to the TDHS, only 22% of pregnant women reported receiving 2 doses of SP as recommended. The median first ANC visit occurs at 5.4 months of pregnancy.

FANC is the WHO-supported strategy for ante-natal care into which IPTp has been integrated in Tanzania. The Mainland MOHSW has been implementing FANC in all public health facilities since 2004. At this point most facilities have received some training on IPTp for at least one health provider, but the other components of FANC have not yet been incorporated into the training. Additionally, quality of ANC services varies considerably, so much so that the MOHSW has requested PMI to update providers' skills and services to ensure impact.

Although PMI funds were not used to provide support to IPTp activities in FY06, the USG has provided IPTp support through the local USAID mission and CDC since 2004. The implementing partner is the ACCESS Project, run by JHPIEGO. ACCESS's achievements have been significant and have advanced IPTp to a level from which PMI can continue financing to scale up activities nationwide. ACCESS IPTp work has concentrated on: 1) developing training materials to standardize IPTp, ITN and FANC training nationally; 2) pre-service and in-service training on IPTp, ITN and FANC, and; 3) supportive follow up of trained providers; and, 4) support to the CEEMI and to the White Ribbon Alliance for Safe Motherhood. Process indicators show advances in the dissemination of IPTp/ITN and FANC training for in-service and pre-service providers. Thirty three out of 128 target districts have IPTp trainers and 241 facilities out of 5,200 targeted facilities have at least one health worker trained in IPTp/ITNs/FANC by JHPIEGO. Follow up has been provided to all trained health providers. All nurse-midwifery certificate pre-service schools in the country are now training all students with ACCESS-developed materials and content, and half of all midwifery diploma schools have tutors trained in IPTp/ITN/FANC.

ACCESS has identified two important barriers for the scale up of IPTp/ITN/FANC activities, namely—the need for community mobilization around IPTp/ITN/FANC issues and stock outs of SP in ANC services.

Proposed Actions

ACCESS has been requested to extend its facility based intervention nationwide to ensure delivery of quality FANC. This activity will focus on extending the previous ACCESS training of trainers for each district by providing the funds, materials and supervisory support to ensure that the services provided through focused ante-natal services for malaria in pregnancy prevention (IPTp and ITN voucher distribution) are in fact provided efficiently and effectively nationwide. JHPIEGO ACCESS project has been identified to implement this activity as part of its ongoing program of support to the Tanzania MOHSW's focused ante-natal services program.

IPTp – Mainland	
Cost	$1.75 million
% Commodities	--
Level	National/ Regional
Mechanism	ACCESS

The trainers put into place in each district during FY06 will now implement facility-level training with an emphasis on ensuring that quality ANC services for malaria in pregnancy are being provided in rural areas. Facility-based and outreach ANC services will both be specifically addressed in this phase. Special emphasis will be placed on ensuring that all pregnant women attending ANCs receive an ITN voucher, and that steps are taken to promote follow-up visits for ANC services, to encourage 2 doses of IPTp per pregnancy for each pregnant woman.

ACCESS will facilitate the reduction of key ANC supplies stock outs, especially SP. In this regard, ACCESS will analyze, using Standards Based Management (SBM-R), assessment results from facilities trained in Years 1 and 2 to determine the extent and origin of stock outs. Subsequently, ACCESS will work with stakeholders (MSD, RCHS, NMCP, DELIVER-follow on, and others) to improve supply problems by advocating improved supplies, and, where possible, participating directly at the facility level in improving drug management. ACCESS will also coordinate with Prevention of Mother to Child Transmission (PMTCT) programs to ensure that all providers understand and implement the MOHSW guidelines which contraindicate the provision of SP to pregnant women living with AIDS who receive prophylactic cotrimoxazole.

In addition, ACCESS will increase national awareness of IPTp/ITN/FANC by integrating appropriate messages into national mass media campaigns. ACCESS will also collaborate with the MOHSW Health Education Unit to update malaria in pregnancy materials and other safe motherhood IEC materials, including the management of malaria in pregnant women with HIV. Community mobilization will be addressed through the training and support of Community Resource Persons in one region. Given that a significant percentage of health services in Tanzania are provided by faith-based organizations, ACCESS will work with FBOs to integrate FANC into their services. PMI support to ACCESS for FANC will be supplemented by $1.5 million in USAID/Tanzania child survival/maternal health funds to cover non-malaria aspects of FANC. ACCESS will be able to cover 100% of health facilities by the end of 2008.

Using FY07 funding, ACCESS will be providing direct support for FANC, including IPTp/ITN, to:

- Increase number of facilities implementing FANC services trained by JHPIEGO from 241 to 829 or 16% of national facilities.
- Train an additional 1,744 providers in FANC quadrupling national coverage to 37% of the 6,000 health workers working in/managing RH clinics including ANC clinics
- Incorporate FANC training in 100% of certificate Nurse Midwifery schools
- Revise the MOH Nurse Midwifery curricula to incorporate FANC

All health workers will be trained in FANC by the end of calendar year 2008, as detailed in Table D.

Table D: Scale up of FANC Activities by Zone and Region

Year	Zones	Regions
2007	Northern	Kilimanjaro, Tanga
	Southern Highlands	Ruvuma
	Western	Kigoma, Tabora
	Lake	Mara, Mwanza, Shinyanga
2008	Southern	Lindi, Mtwara
	Central	Dodoma, Manyara, Singida
	South Western	Rukwa, Mbeya
2009	*Follow-up*	*Follow-up*

The implementing mechanism will be Field Support to the ACCESS Project.

8.A.2 Malaria in Pregnancy - Zanzibar

Current Status

According to the Tanzania Demographic and Health Survey in 2004/ 2005 only 13.8 % of pregnant women received 2 or more doses of SP during their last pregnancy in Zanzibar. These low levels were undoubtedly due to the fact the ZMCP's IPTp intervention is relatively new, having started only in February 2004 (Indeed, an RBM coverage survey conducted in a non-representative community sample in mid-2005 indicated that as many as 48% of women received 2 dose IPTp). Current ZMCP guidelines for IPTp call for two doses of SP to be given as directly observed therapy. Antenatal care was relatively high in Zanzibar, with more than 85 % of women making at least one antenatal visit to a public health facility during their pregnancy. SP availability is high and all health workers have been trained in IPTp. Antenatal care and SP are free. Additionally, community-level BCC has been implemented to increase the use of IPTp. The national

IPTp Zanzibar	
Cost	$50,000
% Commodities	--
Level	National
Mechanism	ACCESS

facilitating team conducts regular supportive follow up visits to clinicians and prescribers to ensure proper drug usage and record keeping of ante-natal care.

Intensive monitoring has been introduced in order to assess, manage and prevent adverse drug reactions in the population. ACT is a relatively new area in Africa, including Zanzibar, therefore intensive monitoring remains crucial. National malaria treatment policies for Zanzibar and mainland Tanzania do not recommend ACT during the first trimester of pregnancy and call for the creation of a national register to record women who receive this treatment inadvertently.

Proposed Actions

Additional support is needed to scale up and strengthen existing IPTp activities. Among actions to be supported are: intensive monitoring and supervision in public health facilities, introducing IPTp in the private sector, updating of existing Malaria in Pregnancy Guidelines to include proper malaria case management of HIV infected pregnant women, refresher courses for health workers and traditional birth attendants (TBAs) and explore the possibility of introducing the use of HemoCue to diagnose anemia in pregnant women.

The implementing mechanism will be Field Support to the ACCESS Project as described in section 8.A.1, above.

8.A.3 Insecticide Treated Nets--Support to the Tanzania National Voucher Scheme

Current Status - Mainland

The Mainland continues to expand its very strong ITN program through its firm commitment to a public private partnership approach that is unique in Africa, and which ensures affordability, accessibility and acceptability of ITNs. The National Insecticide Treated Nets program (NATNETS) has three key components: 1) the ITN Cell in the NMCP which co-ordinates and facilitates all ITN activities in the Mainland; 2) the SMARTNET social marketing project which creates demand, promotes behavior change, supplies free-of-charge insecticide kits to the Tanzanian net manufacturers for bundling with all nets distributed on the Mainland and distributes subsidized insecticide re-treatment kits to the commercial sector, and; 3) the Tanzania National Voucher Scheme (TNVS) which distributes discount vouchers to pregnant women through clinics and dispensaries, allowing them to purchase ITNs from private retailers at approximately a 75% discount.

This program was rolled out countrywide over an 18 month period and now reaches all 21 regions of the Mainland (August 2006). The program has been incredibly successful—

- In June 2006, the millionth TNVS voucher was redeemed and by early August the number of vouchers distributed since the start of the program (Oct 2005) was 1.2 million.
- Average redemptions in April – May 2006 were 100,000 per month—which translates into a rate of 82 % (82 out of 100 women who received a voucher redeemed it).
- By June 2006 a total of 3,883 retailers had been enrolled in the program—of this total, 80 % are new to the ITN-selling business. Regions report 20 – 40 % increases in the

sale of ITNs, and commercial sales (non-voucher) in Tanzania in 2005 were 2.4 million—an increase of 34 % over the previous year.

- Additionally, 782,000 insecticide re-treatment kits have been distributed by the logistics contractor, the Mennonite Economic Development Associates and the MOHSW's Medical Stores Department (MSD) (with DfID and RNE financing) to the District Medical Officers (DMO) for free issue at the 3- and 9-month vaccination points.

At present rates, the NMCP's 2007 target of 60% ITN coverage by pregnant women (based on survey recall of ITN use the previous night) will be achieved, based on projected voucher redemption rates. This will be assessed through the focused evaluation of the voucher scheme proposed in section 8.C.2, below.

PMI's FY06 support to the TNVS consists of the expansion of the voucher scheme to infants to 15 regions (out of 21 Mainland regions), roll out of an "equity/Safety Net" voucher in 6 districts and the provision of longer lasting insecticide treatment kits using KO TAB 123 for bundling with commercial nets. The expansion to infants and equity/Safety Net voucher were contracted out to MEDA after full and open competition under a cooperative agreement on May 31, 2006. The PMI Infant Voucher design has been completed and the launch has been scheduled for October 2006.

The equity/Safety Net voucher is intended to provide free nets to the poorest of the poor who cannot afford the minimum top up amount under the other voucher schemes. For the equity voucher the NMCP is developing strategies and alliances necessary for its distribution. This part of the program is one of the most complex as it involves identifying the poorest of the poor. Nonetheless, the NMCP has identified mechanisms and hopes to be distributing equity vouchers by November 2006.

The purchase of the insecticide treatment kits with KO123 has been assigned to the CORE Group and PSI, and will begin distribution in October 2006.

Table E: Target number of PMI- and GFATM-provided vouchers redeemed by cohort and year*

Type of Voucher	Year 1 2007	Year 2 2008	Year 3 2009	Year 4 2010	Year 5 2011	Source of Funds
Number of pregnant women vouchers redeemed	1,185,601	1,219,983	1,255,363	1,291,769	1,329,230	GFATM
Number of infant vouchers redeemed	1,185,601	1,219,983	1,255,363	1,291,769	1,329,230	PMI
Number of 1 – 4 years vouchers redeemed**	4,215,470			4,592,955		PMI/GFATM
Number of pregnant women equity vouchers redeemed	60,702	124,906	1,448,181	1,490,178	1,533,393	PMI
Number of infant equity vouchers redeemed	55,536	71,764	110,767	113,980	117,285	PMI

Number of 1- 4 year if age equity vouchers redeemed**	60,702***			405,261		PMI

* Adapted from GFATM Round 6 proposal. Figures assume funding of both PMI and GFATM work plan and proposal. Large discrepancies in year to year are due to the increasing number of regions coming on line with the different vouchers.

** The 1 – 4 year old (a.k.a. <5) vouchers will be distributed in mass campaigns in year 2007 and 2010 only

***The number of Equity Vouchers redeemed for 1-4 years olds is either 60,702 assuming the GFATM funds all 21 regions (or 17 given that PMI is funding four). This number (60,702) is then based on the Equity Voucher in seven regions in 2007/8 or the number of EVs should be given based on the four regions the PMI is funding (26,991).]

Using FY07 PMI funding, the TNVS will be expanded further by: 1) expanding the Infant Voucher to all 21 regions; 2) expansion of the TNVS to children under five in four regions most affected by malaria; 3) expanding the safety net (equity) voucher from six districts to 35 – 40 districts; 4) procurement of longer lasting insecticide treatment kits for bundling or pre-treating nets ; and 5) support to Tanzanian net manufacturers for LLIN production technology transfer. These activities are detailed below.

Proposed Actions

PMI will provide support to the Tanzania National Voucher Scheme in a number of operational areas. Examples of these areas are the expansion of the TNVS to include infants and children under five and the implementation of a "safety net" to provide free ITNs to families who cannot afford the top up amount. These are priority areas identified by the NMCP, nonetheless it is possible that PMI may be called to modify its support to TNVS if resources anticipated from the GFATM do not materialize. In such case, funding may be shifted to support the central element of the TNVS—vouchers for pregnant women—or other areas that may need additional support. Below is the description of three top priorities for TNVS.

TNVS Expansion to Infants	
Cost	$8,150,000
% Commodities	73%
Level	National
Mechanism	Competed CA

Expansion of the TNVS to Infants in all 21 Regions

The Infant Voucher is being introduced under PMI FY06 to the 15 Regions of Tanzania where infant mortality (for which malaria is the main contributing factor) is highest. The voucher is issued to mothers and caretakers bringing 9-month old infants to reproductive and child heath (RCH) clinics for measles vaccination. Thus, infants will continue to be protected once they leave their mother's bed, typically at 9 months to one year of age. This voucher will, like the voucher distributed to pregnant women (funded by GFATM), cover approximately 75% of the cost of the net. There is data that suggests that this puts the vouchers in reach of the majority of Tanzanian households. The value of the voucher will be increased from TSh 2,750 to TSh 3,250 to compensate for recent increases in the cost of nets. There is a range of net prices available on the Tanzanian market and the voucher can be used to purchase any net desired. Anecdotal evidence suggests that caretakers tend to purchase the more expensive (and larger) nets. This may indicate that the number of families who cannot

afford to purchase a net with a voucher is significantly less than initially suspected. Nonetheless, the equity voucher proposed in section 8.A.3, will provide additional security for the poor by enabling households to obtain nets free.

This issue will be scrutinized very carefully under the evaluation described below and modifications will be made as needed. In addition, the equity/Safety Net voucher program described below is intended to capture those families in the poorest socioeconomic quintiles.

MEDA, the logistics contractor for the TNVS under the GFTAM, has entered into a competed Cooperative Agreement with USAID – Tanzania (May 2006) to distribute the infant voucher. This CA will also cover the implementation of the Equity Voucher. As a result of "piggy-backing" the Equity Voucher on the Infant Voucher CA, significant savings for the PMI will be achieved. A separate agreement will be competed to manage the training and communications for the voucher scheme. Similar savings will also be achieved by contracting for the services of a training contractor through a locally competed cooperative agreement. The Infant Voucher will be expanded into the remaining six regions of the country during the first three months of PMI FY07 (if early money is available).

Expansion of the TNVS to children under five in 4 regions

The TNVS expansion to children under 5 is intended to rapidly "catch up" and scale up coverage for all children under five. The TNVS, which started in October 2004 and has been in operation with full country coverage since May 2005, provides vouchers only to pregnant mothers. This leaves a significant group of children under five without an ITN to sleep under. Therefore, a catch up mechanism is needed to ensure that all children under five have an ITN. Now that the TNVS is fully operational countrywide, with trained clinic staff and a dynamic and still growing network of nearly 4,000 TNVS registered retailers, the opportunity exists to rapidly scale up the program to reach all children under five.

Children 1-5 years old will receive ITN vouchers through routine child health campaigns such as those carried out for immunization, vitamin A supplementation or lymphatic filariasis. The approximate number of PMI-financed vouchers is 802,947 in year 2006/2007 increasing to 4,592,955 by 2010/2011

Whereas the Infant Voucher will be an ongoing routine program, and thus represents a recurrent cost, the expansion of the program to reach all under fives represents a single intervention to achieve rapid coverage of this entire target group during PMI Years 2 and 3. It will not require annual repetition as all newborn children will be reached through the continuing Infant Voucher program. A further intervention may be required two to three years later, when nets purchased for infants during PMI Year 2 are reaching the end of their life due to wear and tear. It may, for example, be necessary to introduce a further intervention at three years of age, to replace worn out nets and to ensure continuing coverage of all under fives.

Coverage and other indicators will be closely monitored, and the need for a further intervention assessed in two years time. It is also possible that as result of behavior change and the sharing within the family of bed-nets purchased with the pregnant woman or Infant Voucher, that a further intervention is not required, except for the very poor.

The "Safety Net" Program – Ensuring equitable coverage of ITNs

Although the TNVS strategy relies on a targeted subsidy that requires all beneficiaries to provide a top-up amount (depending on the size of the net purchased) this is beyond the reach of the very poor. Therefore the PMI has reached an agreement with the government of Tanzania to establish a new voucher system that provides access to free ITNs for the poorest. Using PMI FY06 funding, an equity/Safety Net voucher (which provides this top up amount making the net free to the user) will be distributed in six districts using existing community based mechanisms. These mechanisms are already working in some districts but will eventually be rolled out nationally. They include Most Vulnerable Children (MVC) Committees and mechanisms for the implementation of the Exemption and Waiver System of the MOHSW, which identifies and exempts the very poor from cost sharing of treatment costs. Also, the Tanzania Social Action Fund (TASAF) is a mechanism that is also being explored. MEDA, in collaboration with NMCP, is responsible for the implementation of this component.

PMI FY07 funds will be used to roll out the Equity Voucher program to seven regions, with particular emphasis on those with high infant and under-five mortality, malaria being the single biggest contributor to this. Careful evaluation of the equity voucher and other elements of the TNVS will be completed to ensure that high levels of coverage are being achieved, particularly among rural poor. If these results are not satisfactory, PMI and NMCP officials will consider alternative approaches to targeting full cost subsidy to those most in need of malaria prevention. Implementation mechanism is the bilateral MEDA cooperative agreement. The costs for this activity are higher than for the regular voucher schemes as it will be considerably more difficult and require more effort logistically to reach the poorest of the poor and the vouchers are fully subsidized.

The monitoring and evaluation of the infant, under five and equity vouchers is discussed in section 8.C.2 below.

8.A.4 Procurement of Longer Lasting Insecticide Treatment Kits for Bundling and Factory Pretreatment

Current Status

The subsidized provision of insecticide treatment kits in Tanzania is a key element of the TNVS and comprises a significant portion of the voucher subsidy. All nets sold nationwide are mandated to be bundled with an insecticide treatment kit (to date funded by DfID and RNE), and uniquely high numbers of nets are sold on the commercial market with significant subsidy (the insecticide kit provided to the manufacturers). Targeted groups under the voucher program are now becoming the primary beneficiaries of the insecticide subsidy. Because the subsidized insecticide is provided through the private sector commercial market, the subsidized cost savings from the insecticide is passed on to all consumers thus lowering the overall retail price of ITNs in Tanzania and increasing accessibility. An essential pre-requisite, however, was that the insecticide would continue to be provided on a free of charge basis (either as kits for bundling or in bulk for factory pre-treatment). Without this support, the price of an ITN/LLIN in Tanzania would effectively double and go beyond the ability to pay off a large proportion of the population.

Proposed Actions

To date, the insecticide treatment kits have been funded by DfID and RNE. However, PMI has been asked to now support this cost due to funding priority shifts for these donors in addition to a greater need for the insecticide as the TNVS is scaled up and expanded. Sales and voucher redemption projections anticipate that around 2.0 million nets requiring bundling with longer lasting insecticide treatment kits will be sold and approximately 1.5 million units of longer lasting insecticide will be required for factory treatment.

Procurement of Insecticide Treatment Kits	
Cost	$5.15 million
% Commodities	100%
Level	National
Mechanism	Competed

In collaboration with other donors, $5.15 million of FY07 PMI funds will be used to procure the insecticide treatments kits to be first bundled with nets and then be used for factory pretreatment as the manufacturers adopt the LLIN production process (discussed below).

8.A.5 Support to Tanzanian Net Manufacturers

Current Status

Tanzania has a unique manufacturing base in Africa for the local production of ITNs. There are four manufacturers of nets that provide most of the country's needs participating in the TNVS program. In past years, this base has been supported by the NMCP via DfID, RNE and GFATM funding, and has resulted in a highly-competitive domestic market for ITNs. This competition, combined with the Government of Tanzania's removal of taxes and tariffs on mosquito nets and subsidy of the bundled insecticide, has resulted, in dramatic drops in the market prices of ITNs.

The NMCP wants to encourage a transition to long-lasting insecticidal nets as a way to improve the cost-effectiveness of locally produced nets. Recently, a consultancy was carried out to investigate the costs and feasibility of the necessary technology transfer to permit the factory LLIN pre-treatment by all four of the Tanzanian Net Manufacturers (TNMs) (Techno-Economic Feasibility: Manufacturing Long lasting Nets in Tanzania, 2006). It was estimated that this would take about two years to complete. Two manufacturers have expressed interest and willingness to convert production to LLINs and have been actively working toward this goal. The NetMark Plus Project, supported by USAID/East Africa (formerly REDSO), is working with these two largest TNMs to introduce the technologies for factory pre-treatment of LLINs. These two manufacturers--which supply 90 % of the Tanzanian market—are in the advanced stages of planning for the purchase of equipment for factory pre-treatment. NetMark Plus is providing $144,000 of USAID/East Africa regional funding for technology transfer to the two manufacturers and will continue to provide training and technical assistance.

The NMCP plans to move to factory pre-treatment under the TNVS within two years. They are concerned that as much competition as possible remains so as to keep the prices to consumers low. Recent discussions with the two smaller TNMs indicate that one is willing to invest in LLIN technology and greatly expand its production. The other TNM is considering the move to LLINs.

Funding allocated for the technology transfer in FY06 was used to fill a gap in ITNs and procure insecticide treatment kits for bundling at the request of NMCP.

Proposed Actions

The PMI will support this successful example of competitive free-market economics with technical and material assistance to speed the transition of this manufacturing capacity from the production of bundled ITNs to true LLINs. PMI will collaborate with the NetMark Plus Project to augment the production of LLINs available to the TNVS through factory pre-treatment with a long-lasting insecticide. This transition will directly contribute to the PMI's targets for Tanzanian coverage of ITNs by making long-lasting nets more affordable and available to users. This is a one-time investment with the goal of making all nets produced in Tanzania long lasting. The activity is consistent with the criteria set in the policy memorandum; "Funding and Implementation of Technology Transfer to Increase Supply of Long Lasting Insecticide Treated Nets," March 2006.

Support to TNMs	
Cost	$500,000
% Commodities	---
Level	National
Mechanism	Field Support to NetMark +

While the net manufacturers themselves will finance the costs of the equipment for the pre-treatment of nets, in FY07, the PMI will provide $500,000 to: a) assist the two TNMs supported by NetMark Plus in the acquisition of equipment for quality assurance of their manufactured ITNs; b) support training of TNM personnel in quality assurance methods; c) support the purchase and installation of a QA laboratory within the appropriate governmental entity to provide independent quality verification of locally-produced LLINs, and, finally; d) to encourage the two smaller TNMs to start producing LLINs and remain within the TNVS program. No delays in the distribution of nets are expected as part of this activity. Funding is budgeted to support both remaining TNMs, but will be provided only to ones who chose to participate by investing in capital equipment.

It is expected that significant incentives will be provided for early adopters and increasing penalties (e.g. non participation in the voucher scheme) over time for laggard manufacturers. This incentive structure is needed as it is highly likely that significant savings can be achieved in per-net costs with the factory level bulk treatment. These funds will then be freed-up for increased voucher provision to the consumers. In addition, the memorandum of understanding with the net manufacturers for the next phase will explicitly lay out a timetable for the phased withdrawal of donor subsidies for the insecticide treatment process, so that as the costs per net decrease, the savings can be passed directly to the unsubsidized Tanzanian consumer via increased price competition.

The implementing mechanism will be field support to NetMark Plus.

8.A.6 Routine Distribution of Long Lasting Insecticidal Nets – Zanzibar

Current Status - Zanzibar

Zanzibar's ITN policy is free distribution to all pregnant women and children under five years of age. However, there is yet no mechanism for routine distribution of LLINs to newly pregnant women and newborns. Therefore, distribution is done through periodic campaigns through health facilities with lists of mothers and children who live within the impact area of the facility.

This past year, PMI and GFATM supported the distribution of 210,129 LLINs in December 2005-January 2006. Procurement of 103,000 LLINs was financed through Round 4 GFATM funds and distribution began in mid-2005. Additionally, PMI provided 130,000 LLINs that were distributed along with GFATM's LLINs in early 2006. Distribution occurred in 9 of the 10 districts of Zanzibar—exempting urban Zanzibar. Stone Town was later covered with 90,000 LLINs provided under GFATM. Before the introduction of LLINs the nets being distributed were regular Nylon nets that needed to be re-treated every six months. The LLINs distributed during this campaign were the Olyset® brand by Sumitomo manufactured by A to Z, Tanzania.

The initial distribution of LLINs through health facilities in a mass campaign worked very well. Preliminary evidence from the recently concluded IRS campaign, in which a census on net ownership was conducted, indicates that slightly more than 80% of households had a bed net. With such results it is imperative to put in place a mechanism for the routine distribution of LLINs to newly pregnant women and newborns. GFATM Round 4 funding is available to provide the LLINs for newly pregnant women and their infants. However, there is no provision for BCC activities to support additional uptake of LLINs.

Proposed Actions

PMI FY07 funds will be used to assist ZMCP in the development of a sustainable mechanism for the routine distribution and promotion of LLINs to the new cohorts of pregnant women, infants and children under five. PMI will provide $150,000 of funding for this activity in FY07. Within this request are resources for BCC to ensure that the new cohorts have high uptake of the routinely distributed LLINs. Resources in this activity supplement those found in 8.A.8 below. Communication activities will involve mass media as well as community-level activities. Promotional activities will also target other vulnerable groups such as people living with AIDS (PLWA), orphans and vulnerable children.

LLINs Routine – Zanzibar	
Cost	$150,000
% Commodities	--
Level	National
Mechanism	Competed

The implementing mechanism will be competed.

8.A.7 Demand Creation, Behavior Change Communication and Promotion

Behavior Change	Mainland
Cost	$2.6 million
% Commodities	--
Level	National
Mechanism	Locally Competed

Current Status – Mainland

All the PMI activities include changing behaviors of both providers and consumers. Demand creation, social marketing and behavior change communication (BCC) were not included in PMI FY06 as there were other funds available from SMARTNET. For FY07, PMI proposes to become more involved in demand creation and BCC to achieve the PMI goals. Promotion messages will be combined for the four main interventions – IPTp, ITNs, IRS and ACTs, but the emphasis is on PMI's main intervention in the Mainland—ITNs. Generic social marketing of ITNs has been supported by the SMARTNET activity funded by DfID and SDC over the last five years (2001 – 2006). Promotion at the district and community level has been handled by World Vision under GFATM Round 1. It is generally considered that the social marketing/community activities have been a success but the funding is likely to decrease due to other DFID priorities. This leaves only resources from PMI available for 2007 BCC/social marketing/community communication activities.

The NMCP has already developed, with support from the GFATM, a communication strategy (Communication Strategy for the National Malaria Control Programme, 2005) to support the various aspects of its program. A request for BCC funding has been included in the GFATM Round 6 application. However, even if granted, funds will not be available from GFATM at the time they are needed, leaving PMI as the only source of funds for communication activities in FY07. PMI has been requested to support NMCP's BCC strategy 2007.

Proposed Actions – ITN promotion/IPTp, IRS, ACT

This activity is critical to the continued success of the voucher schemes and is needed to close the gap between net ownership and use. TNVS and partners have developed a strong framework for promoting acceptance and appropriate use of ITNs and insecticide re-treatment kits including mass media, rural road shows, networks of ITN sellers, health worker communication and community based interventions to deliver consistent messages about malaria prevention. Demand creation will continue through both branded and generic (Malaria Haikubaliki) campaigns with the emphasis being on rural communities. Memorandums of understanding with the TNMs will explicitly set out requirements for individual manufacturers branded promotion to be matched with generic promotion from PMI. This will increase the manufacturers' investments in their brands and domestic distribution networks, and further strengthen incentives for long-term investments by the commercial sector.

BCC activities will include mass media promotion on consistent and proper ITN use, training of community level change agents and a rural based communication campaign. Without constant, focused reminders to use ITNs, demand IPTp, accept IRS and quickly and effectively treat malaria, the PMI will not meet its goal.

NMCP, through the PMI contractor, will produce TV, radio and newspaper advertisements promoting LLINs as a method of malaria prevention and the eligibility of the target groups of TNVS. The advertisements will target pregnant women and caregivers of <5s. The goal will

be to create awareness of pregnant women and caregivers of <5s of their right to access subsidized nets for themselves and their children during the regular and mass voucher distribution campaigns. As time passes, the awareness of TNVS and net use among target groups and the Tanzanian population in general will increase.

Alternative BCC interventions will be used to reach target groups with no access to regular mass media. The PMI contractor will use music, video and theatre, as well as other creative methods in order to reach those who may not be reached by mass media. Focus will be put on both external interventions, i.e. rural bus branding, and strategies initiated by the communities themselves, i.e. the Focal Parents program.

During FY07 the stage will be set for moving from an emphasis on mass media to an emphasis on the district and community level, at least for the ITNs. NMCP intends to increase the capacity of districts to plan, implement and evaluate BCC activities at the community level.

The implementing mechanism will be a competitively awarded cooperative agreement with a locally-represented NGO (or consortium of NGOs) to manage this activity across the interventions.

8.A.8 Demand Creation, Behavior Change Communication and Promotion

Current Status - Zanzibar

The initial PMI distribution of LLINs in Zanzibar in January 2006 was not accompanied by BCC campaigns. As a result, many consumers did not know how to properly use the nets. USAID immediately implemented a communication strategy in support of the ZMCP Kataa Malaria (Reject Malaria!) campaign funded by pre-PMI malaria funds through the T-MARC social marketing program. The campaign has been very successful in raising awareness of malaria as a serious health problem for individuals and for Zanzibar as a whole. The four priority areas of Kataa Malaria Phase I are: 1) access to effective management; 2) promotion of ITNs; 3) control and prevention of malaria in pregnancy; 4) community-based activities. A number of educational materials have been produced such as pamphlets, posters, flipcharts, “photonovelas,” teacher’s guides, etc. Additionally, using resources from the IRS contractor, mass media (e.g. TV, radio, press and billboards) has been used to promote the IRS campaign. T-Marc also provided support by working with local NGOs to follow up the use of the LLINs in homes. The Health Unit of the MOHSW is the lead department for the development, coordination and implementation of BCC activities in Zanzibar. It is subdivided into four components, namely: management, community-based health care services, school health and public health information.

Proposed Actions

Resources for BCC for IRS are already included in the IRS budget. However, the ZMCP wishes to strengthen the MOHSW’s Health Unit’s capacity to implement other Kataa Malaria, non-IRS BCC by providing materials and equipment to carry on BCC once PMI funds are discontinued. ZMCP vision is sustainability of BCC beyond PMI. These resources

will be used to complement other BCC resources from other donors. Among potential activities that may be carried out are community-based approaches to promote ITNs and IPTp, promotion of IRS, collaboration with NGOs, development of malaria radio programs, etc. Equipment and materials for the development and printing of BCC materials will be procured.

Behavior Change – Zanzibar	
Cost	$70,000
% Commodities	--
Level	Zanzibar
Mechanism	Competed

The implementing mechanism will be a competitively awarded cooperative agreement.

8.A.9 Urban Malaria Control – Larviciding Mainland

Current Status – Mainland

PMI has provided $200,000 in FY 2006 support to the Dar-es-Salaam Urban Malaria Control Programme through the global Integrated Vector Management (IVM) implemented by Research Triangle Institute (RTI). This is a collaborative effort between the City Medical Office and IHRDC. Field workers have successfully mapped mosquito breeding sites within the municipality and conducted regular inspections to identify which are active, as well as to conduct reconnaissance for new breeding sites. The teams also conduct regular sampling for mosquito vectors including nighttime human landing catches. Since April 2006, field teams have treated active breeding sites with a biological larvicide (*Bacillus thuringiensius israelensis* and *Bacillus sphaericus*).

Urban Malaria Control	Mainland
Cost	$400,000
% Commodities	25%
Level	District
Mechanism	Competed

Data from other larviciding programs suggest that it is a feasible and effective means for reducing malaria transmission, particularly in urban areas where mosquito breeding sites are identifiable. Since larviciding began, routine monitoring of mosquito densities has shown a 50% reduction in vector populations and in human-mosquito contacts. Community and health facility-based data on malaria infection and illness rates are currently being collected. Through the activities of the Dar-es-Salaam Urban Malaria Control Programme, more than 200,000 urban residents have been protected from mosquitoes carrying malaria and other diseases. The program also provides a scaleable model for rolling out larval control in other urban settings.

Proposed Actions

In PMI FY07, $400,000 will be used to move the program to direct implementation and expansion of the Dar-es-Salaam work. An additional 3 wards will be added, effectively doubling the population covered. The total population covered by the end of calendar year 2007 will be 370,000 and will be doubled in calendar year 2008.

The implementing mechanism will be competed as the Integrated Vector Management agreement is ending in March 2007.

8.A.10 Epidemic Surveillance and Indoor Residual Spraying - Mainland

Current Status

Identification and control of malaria epidemics is one of the principal strategies for the control of malaria advocated in the National Malaria Medium Term Strategic Plan 2002 – 2007. The main areas of focus include: establishment and strengthening of surveillance systems and building the capacity at the district level to detect and respond quickly and effectively to epidemics, to identify communities and locations particularly prone to malaria infection and transmission, and to establish sound planning for epidemic outbreaks. Indoor Residual Spraying is one of the interventions recommended for prevention and control of malaria in epidemic-prone areas in the country. A limited supply of spray equipment and protective gear is available in some districts as emergency stocks.

Epidemic Surveillance & Response	
Cost	$800,000
% Commodities	38%
Level	Regional
Mechanism	Competed

The Integrated Vector Management Project, implemented by RTI was contracted by the PMI to work closely with the NMCP and designated District Malaria/IMCI focal persons to establish planning procedures, collect necessary data for strengthening surveillance (in order to detect outbreaks within a week of their occurrence) and establish depots for the storage of insecticides, spray equipment and safety equipment to respond effectively with IRS. A consultant from RTI worked with NMCP in year 1 to identify epidemic prone districts where spraying might be carried out in order to reduce highly predictable seasonal malaria transmission.

The IVM consultant identified a number of areas for support and has made a series of recommendations to improve routine surveillance and epidemic detection. The consultant recommended “pre-emptive” indoor residual spraying (before the rainy season) rather than “reactive” spraying. This will entail the setting up of mechanisms for prioritizing districts and the establishment of a regular mechanism to obtain seasonal climate forecasts for predicting possible epidemics.

Proposed Actions

Although epidemic response is an important capacity for NMCP, it is likely that IRS could be used more efficiently in areas where predictable seasonal malaria transmission occurs. In Muleba and Karagwe districts there is a regular and predictable increase in malaria cases each year from April to August. It is not clear whether the increased numbers of cases reported from the district hospitals in 2006 represented a true malaria epidemic or simply reflected more people seeking hospital treatment. Similar levels of malaria cases and treatment were reported from Muleba District in 2005 and 2003. In both years, NMCP and partners responded by providing drugs for ACT and rapid diagnostic tests to improve case management. USAID – Tanzania also mobilized and using non-PMI resources provided emergency medications and equipment for the management of severe malaria in the local hospitals.

NMCP has now targeted Muleba for IRS in PMI year 2. This will have a substantial impact on the expected seasonal malaria transmission that regularly occurs in the district, regardless of whether or not a true epidemic can be expected. Unspent funds from year1 (approximately

$600,000) plus an additional $800,000 in year 2 should be sufficient to cover this activity. PMI plans to spray defined, high-risk areas of Muleba District on the Tanzanian mainland rather than widespread spraying of Muleba and Karagwe. Hot spots in Muleba have already been mapped. The area of concern is a plateau inland from Lake Louise, an area of coffee and banana plantations. This would result in the spraying of 35,000—40,000 households. Spraying would commence after completion of the Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP).

In the PMI year 2, activities will be extended to cover more malaria epidemic prone districts. The primary focus will be to strengthen the surveillance system and building the capacity at the district level to detect and respond quickly and effectively to epidemics, to identify communities and locations particularly prone to malaria infection and transmission, and to establish sound planning for epidemic outbreaks. Also more efforts will be made to strengthen the central level capacity to access and interpret rainfall forecasting data. This will enable them to predict likely malaria outbreak, and warn districts of the risk in advance. In addition, strengthening the capacity of the NMCP to effectively manage and monitor the strategy for prevention and control of malaria epidemics will receive high priority

The implementing mechanism will be a competed cooperative agreement as the IVM Project is ending in March 2007.

8.A.11 Indoor Residual Spraying - Zanzibar

Current Status

The PMI-supported indoor residual spraying campaign was launched on July 9, 2006. The plan was to spray all households (except in Stone Town) in the 10 Zanzibar districts—approximately 216,876 households (based on 2002 Census projection). The contractor is Research Triangle Institute through the IVM Project. All spraying and safety equipment has been procured and imported. Approximately 6.4 tons of lambdacyhalothrin insecticide (Icon®) was imported. 452 spraying operators, 10 Site Managers, 22 District Supervisors and 56 Team leaders have been trained and deployed throughout Zanzibar. Additionally, two warehouses have been rehabilitated at central level and one storage facility in each district has been constructed to facilitate the safe storage and movement of the insecticide.

Strong inventory control of the insecticide has been put in place to eliminate environmental contamination from non-approved use. Spraying was conducted in approximately 54 working days and ended on September 9th 2006. A total of 199,344 households were sprayed—this is equal to 93% of households in the islands. The total population covered with the IRS was 1,018,156, equivalent to 86% of the target.

The IRS team has built strong relationships with districts authorities and it is they who provide offices and political support at the local level. Transportation to and from sites is with locally rented vehicles ("dala-dalas") that are clearly marked as working on the Kataa Malaria campaign. Police have been notified and provide safe passage to project vehicles.

The IRS has received considerable positive press. World Health Organization officers responsible for IRS globally visited Zanzibar and declared the IRS program one of the best they have seen. Local Zanzibari press has also noted the efficiency of the campaign.

Proposed Actions

IRS Zanzibar	
Cost	$1,850,000
% Commodities	43%
Level	National
Mechanism	Competed

ZMCP is requesting $1,850,000 for a second round of spraying to complement the first IRS campaign. The physical and human infrastructure as well as the logistics systems built during the first campaign will be used for the second round. ZMCP officers and the contractor (i.e. RTI) have assessed their performance and have identified ways of improving this second round of spraying. Such lessons will also be incorporated into the mainland's IRS program. The second round of spraying in Zanzibar will take place before the start of the long rains toward late January 2007. Close entomological monitoring (See 8.C.1) is part and parcel of this activity.

The implementing mechanism will be competed as the Integrated Vector Management Project ends in March 2007.

8.B INTERVENTIONS – CASE MANAGEMENT

8.B.1 and 8.B.2 Rapid Diagnostic Tests for Mainland and Zanzibar

Current Status – Mainland and Zanzibar

PMI awarded a total of $500,000 for procurement of rapid diagnostic tests (RDTs) for malaria in FY06. $65,000 was used to procure 100,000 Paracheck® tests on behalf of ZMCP so that RDTs could be provided for three districts where they had been introduced for routine use. The additional $435,000 will be used to procure RDTs for Mainland Tanzania. In January 2006, NMCP convened a Task Force to advise the program manager on issues related to improved malaria diagnosis, especially the use of RDTs. The group has developed technical specifications and recommended two equivalent products (Paracheck® and Parahit®) that the NMCP will use.

Current guidelines published by NMCP call for diagnostic confirmation of suspected malaria infection, either by blood slide or RDT, where available. Children under five years who test negative should be carefully evaluated and treated for other conditions, but also offered first line treatment for malaria. For older children and adults NMCP recommends that negative test clients be evaluated and treated for other conditions but not offered malaria-specific treatment.

Proposed Actions – Mainland

RDTs – Mainland	
Cost	$600,000
% Commodities	83%
Level	District
Mechanism	
Commodities	UNICEF
Non-commodities	CDC

Although PMI funds were available only to procure the test kits, NMCP has an interest in making sure their use is evaluated carefully, so that it can develop future recommendations about the wider use of RDTs for malaria. In particular, understanding how prescribers use the results to guide the delivery of ACT will be critical. The Malaria Diagnostic Task Force has identified sites of varying transmission where the first

of the RDTs should be deployed and evaluated. These include an urban setting (Dar es Salaam, 150,000 kits), a rural high transmission setting (Mkuranga/ Rufiji, 150,000 test kits), a peri-urban seasonal transmission setting (Muheza/ Tanga, 90,000 test kits), and an epidemic prone setting (Muleba, 75,000 test kits). All of these sites are coordinated by NMCP research partners and have secured independent funding for evaluating the RDT introduction. These efforts will be coordinated by the Malaria Diagnostic Task Force, and will focus on collecting consistent information on how RDT results affect prescribing practices and what can be done to maximize their effective use. An additional $500,000 in FY07 funding is proposed to continue the same level of support for RDTs. FY07 also includes $100,000 to support non-commodity costs associated with training, supervision and evaluation of the RDTs.

The implementing mechanism will be bilateral procurement through UNICEF and a CDC cooperative agreement for PMI Monitoring and Evaluation with NMCP

Proposed Actions – Zanzibar

RDTs – Zanzibar	
Cost	$165,000
% Commodities	79%
Level	National
Mechanism	UNICEF

Zanzibar will maintain and expand its use of RDTs throughout the isles. They have requested $165,000, of which $130,000 will be used to procure approximately 185,000 Paracheck® RDTs. The rest of the resources will be used for training and follow up and supervision.

The implementing mechanism will be UNICEF.

8.B.3 Training and Supervision for ACT Roll Out

Current Status

The ACT roll out is currently underway with an official launch scheduled in October 2006. In preparation for the ACT roll out, the NMCP has begun training (July 2006) of all health workers who will be handling the new ACT—artemether-lumefantrine (ALu). This includes all prescribers both in the public and private sector as well as pharmacists. Training has been split into phases—with lower level workers first in line. Training is two days long and includes updating all personnel in the new NMCP National Guidelines for Malaria Diagnosis and Treatment. PMI provided funding for training in three MOHSW zones through the Zonal Training Centers (ZTCs) in Arusha, Iringa and Kigoma. A total of 11 regions will be covered—essentially half the country. This activity was delayed by NMCP because ACTs had not arrived in country until July 2006. NMCP did not want to have too long a gap between training of health workers and the actual deployment of ACTs. NMCP estimates that health workers from approximately 3,500 public health facilities will need to be trained in the first phase of training (100 hospitals, 400 health centers and 3,000 dispensaries. Approximately 5,200 public health service clinicians will be trained. Additionally, 750 mission-run health facilities and 650 private for profit facilities will also need training. All these health workers will be trained in the first phase of the new ACT training. It is expected that the bulk of the training will be completed in 3 – 4 months. During a second phase, training will be offered to nurses providing in-patient care of malaria as well as laboratory technicians, private pharmacists and drug vendors (e.g. ADDOs).

Proposed Actions

Training ACT Roll Out	
Cost	$325,000
% Commodities	--
Level	Regional
Mechanism	TBD

PMI is seeking an additional $325,000 to supplement NMCP to complete phase 1 training and start phase 2. These resources complement resources already in the NMCP's budget.

The implementing mechanism is to be determined as USAID only has relationships with three ZTCs so far.

8.B.4 Artemisinin-based Combination Therapy for ADDOs

Current Status

PMI allocated $300,000 FY06 funds to WHO for procurement of artmether-lumefantrine (Coartem®) for accredited drug dispensing outlets (ADDOs). Within the past year, 170 ADDOs were authorized in Kilombero and Ulanga Districts, bringing the total number of outlets to just over 350. The ADDO model has not expanded as rapidly as anticipated. NMCP and its implementing partners have yet to agree on the mechanisms for delivery and pricing of ACTs in the ADDO shops. In addition, the NMCP determined that it was necessary for the public sector roll out to be in place before the ACTs could be in the private sector. As a result of these delays, a portion of the FY06 funds for ADDO ACTs was used for an emergency procurement for Rufiji District instead. These details are being coordinated with Tanzania Food and Drugs Authority (TFDA) through the Rational Pharmaceutical Management Plus Project, also supported by PMI. A recent evaluation of the ADDOs in Ruvuma region showed that dispensing of unregistered medicines fell from 26 % to 2 %, and availability of essential drugs increased from 56 % to 78 % of outlets. Additionally, prices of tracer medicines, medicines used as proxy for evaluating availability of all drugs, were more in-line with MOH national recommendations than in a non-ADDO region nearby.

ADDOs Mainland	
Cost	$550,000
% Commodities	91%
Level	District
Mechanism	
Commodities	UNICEF
Non-Commodities	MSH

Proposed Actions

Following the procurement of ACTs for Rufiji District, approximately $150,000 of first year funds remain in the WHO purchasing mechanism for this activity. This amount should be sufficient to supply treatments of ACTs to the existing ADDOs in Ruvuma and Morogoro Regions for up to 6 months (NMCP and partners anticipate an average of 2 treatments per ADDO unit per day). An additional $500,000 in FY07 funds are programmed to continue supplying ADDOs and to cover their expansion into additional districts in Morogoro Region. $50,000 is programmed for MSH to assist with the non-commodity costs associated with introducing subsidized ACTs at ADDOs. NMCP has recently submitted a $35 million proposal to expand subsidized ACT to all ADDOs, private health facilities and registered pharmacies in the country in Round 6 of the GFATM. The Round 6 proposal includes TFDA, MSH, IHRDC and PSI as implementing partners. NMCP and partners plan to build upon early experiences gained through PMI work in ADDOs to develop models for scaling

up nationwide. Because the eventual plan calls for social marketing of over-branded pediatric doses of ACTs (overbranding is a social marketing technique using one common brand identity to promote a range of equivalent products from different manufacturers), PMI and its partners will coordinate the introduction of ACTs into ADDOs with NMCP to ensure consistency of methods and approaches.

8.B.5 Artemisinin-based Combination Therapy for Refugees

Current Status

NMCP received support from Round 4 GFATM to introduce ACTs as first-line treatment of uncomplicated malaria. The amount of funds requested was based on malaria cases reported through the national health management information system (HMIS). These data are reported from all government and voluntary health facilities throughout the country.

ACTs for Refugees	
Cost	$350,000
% Commodities	100%
Level	District
Mechanism	WHO

Unfortunately, implementing partners providing health services to refugee-affected communities under the authority of United Nations High Commissioner for Refugees (UNHCR) do not report routine data through the HMIS. As a result, populations who seek care from UNHCR partners in refugee-affected areas were not considered in the NMCP's estimation of ACT needs. In addition, UNHCR and its implementing partners did not budget sufficient resources to transition from SP to ACT.

In FY06, PMI allocated $500,000 to WHO for procurement of ACTs on behalf of UNHCR and its implementing partners. Doses needed were quantified by UNHCR and an order was placed, received in country and it is now being distributed to refugee camps in Western Tanzania. UNHCR has paid for all in-country logistics. NMCP has authorized UNHCR to begin implementing ACTs which is underway. They will assist with training prescribers and dispensers through the MOHSW's Zonal Training Centers.

Proposed Actions

It was anticipated that UNHCR partners would quickly begin procuring ACT themselves once the policy change had been implemented. This does not appear likely any longer, as none have yet committed additional resources to cover this additional cost. PMI has proposed an additional $350,000 in FY07 resources to bridge the gap between FY06 supplies and when UNHCR and partners begin providing ACT. The implementing mechanism will be field support through WHO.

8.B.6 Management of Severe Malaria

Current Status

Management of uncomplicated malaria will be greatly improved when ACT is introduced for first-line treatment. However, resources and training to equip health facility staff to identify and manage severe illness are lacking. Even under ideal conditions when managed as

recommended, as many as 20% of children with severe malaria will die and many more develop developmental delays and other sequelae. Children with danger signs identified with the IMCI algorithm should be referred to health centers or hospitals where trained staff and specialized equipment should be available. In addition, peripheral health staff is instructed to provide pre-referral doses of essential medicines, usually by injection. It's not known how frequently these services are provided or how many referrals are actually completed. Where referral is difficult or not possible, peripheral health workers have been known to manage severe illness with repeated intramuscular injections and without proper supportive care for days or even weeks on end. Despite the deficiencies in pre-referral care and the quality of care at inpatient departments, a number of promising new interventions for confronting severe malaria have become available in recent years. Rectal and intramuscular artemisinin drugs, for example, are equivalent to intravenous quinine for treating severe malaria, but much less likely to cause toxicity or precipitate crises such as hypoglycemia. Rectal suppositories can be given without specialized training or injection equipment and would be an ideal intervention for pre-referral care at peripheral health facilities or in the community. WHO has already recommended rectal artesunate for initial pre-referral care of children with suspected severe malaria and products have been registered with the Tanzania Food and Drugs Authority.

Proposed Actions

Management of Severe Malaria	
Cost	$390,000
% Commodities	26%
Level	District
Mechanism	
Commodities	UNICEF
Non-Commodities	CDC CA

PMI has programmed FY06 and FY07 resources to introduce enhanced pre-referral and inpatient care in a limited geographic area. The objective of this activity will be to demonstrate how these new interventions as well as improving overall standards of care can be deployed in dispensaries and health centers. $350,000 in FY06 funds have been allocated to purchase commodities for treatment of severe malaria. An additional $150,000 was allocated to the CDC cooperative agreement with Ifakara Health Research and Development Centre to develop training, supervision, and monitoring protocols for the improved management of severe childhood illness. Responsible clinicians have been hired and sites identified in Kisarawe, Ilala and Bagamoyo Districts. The intervention area includes a catchment population of 300,000 and it is anticipated that 12,600 children will present with severe febrile illness each year. District health officials and the NMCP case management cell have been consulted and draft protocols prepared. This activity will be coordinated with a plan for improving emergency pediatric care in all 121 districts that has been proposed in the Round 6 application to GFATM. Because this intervention will involve newly identified products, the protocol will require approval from the Commission on Science and Technology. Implementation of the severe malaria interventions will also be most efficient if it occurs after ACT has been introduced for first line treatment of uncomplicated malaria. Initial procurement of rectal artesunate and parenteral quinine for this activity will be made in October 2006. An additional $100,000 in commodities and $290,000 in non-commodity costs are programmed for this activity in FY07. Commodity purchases will be completed through the UNICEF central purchasing mechanism. Funding for non-commodity costs will be passed to IHRDC through its cooperative agreement with CDC.

8.B.7 Technical Assistance and Support to MSD for ACT Implementation

Current Status

Ensuring an uninterrupted supply of ACTs is crucial to the success of the new malaria treatment policy. The purchase of artemether-lumefantrine (Coartem®) from Novartis through WHO as well as other anti-malarials for the public sector has been mandated to MSD by NMCP using GFATM funds. MSD is responsible for customs clearance, storage and distribution of ACTs up to district level.

This activity is part of the FY06 work plan; however, delays in the procurement of ACTs through GFATM affected how this activity was implemented. Currently a four phase ordering and delivery schedule has been put into place. A total 8,714,880 treatments will be delivered for the period July – December, 2006. The first consignment (2,154,240 treatments) has arrived in country (July 2006) and similar deliveries are expected in August, September and October 2006. Although ACTs are already being distributed in-country and training of health workers has begun, the official launch of ACTs will be in October 2006.

Support to MSD	
Cost	$330,000
% Commodities	--
Level	National
Mechanism	DELIVER 2

An important consideration for this activity is the fact that installed physical capacity of the MSD may not be enough to handle ACTs at the central and regional levels. A rough assessment shows that a tin can that could hold up to 300 treatments of SP has now been replaced by a box that is 30 times the size. Additionally, ACTs arrive in dosage-dependent boxes. This means that MSD has to repackage the boxes with the appropriate mix of doses (for the different age groups) before they can be distributed to regions and districts.

The initial quantification of first order of ACTs was done based on morbidity and average health facility attendance. The follow-up orders will be based on consumption figures after two cycles of pushing without feedback from facilities. The Integrated Logistic System (ILS), now being rolled out nationwide, will be used by health facilities to order ACTs and other anti-malarials from MSD. To have enough data on actual consumption of ACTs, there must be a mechanism that will facilitate the process of getting feedback information from facilities which will enable MSD together with NMCP to quantify the right amount of ACTs needed and distribute accordingly. The contractor, in conjunction with the NMCP, will support MSD by providing technical assistance to enable the efficient quantification and tracking of ACTs.

Proposed Actions

PMI will work with partners to conduct a review of MSD core operation functions (ordering, procurement, storage and distribution) and of previous MSD interventions done by other agencies to ensure that PMI support to MSD is not duplicative or onerous. Based on the identified problems, specific strategies for technical and infrastructure support will be developed. This activity may include purchase of warehousing equipment, and updating and increasing warehousing capacity. Additional training of personnel at central and regional levels may also be needed.

Other activities may include developing a supportive supervision system for several selected facilities per zone that will help MSD obtain accurate feedback information from facilities on

the ACTs consumption in the first two cycles of distribution. In addition, an assessment of the MSD database/DMIS capacity may be required to ensure that data related to ACT consumption and distribution is captured, analyzed and shared with the NMCP and PSU for better quantification.

The implementing mechanism will be field support to DELIVER 2 Project.

8.B.8 Promotion and Awareness of Appropriate ACT Use

Current Status

Tanzania has recently adopted a new policy that changes first line treatment to ACT, artemether-lumefantrine (Coartem®). Coartem is being rolled out to all public sector facilities and will be available in the private sector through the ADDOs. The PMI is supporting the new policy through funding for training, logistics and implementation in the private sector. However, additional challenges related to consumer and provider awareness of the new treatment policy and appropriate use of ACT require support. Unregistered, counterfeit drugs may be available on the market which have substandard or inadequate active ingredients. Despite WHO recommendations that all artemisinin drugs be supplied in combination with other anti-malarials, mono-therapy artemisinin is widely available in the private sector and its use persists. This activity focuses on raising awareness among providers and consumers on promoting awareness, health seeking behavior, and rational use of ACTs.

ACT Social Marketing	
Cost	$300,000
% Commodities	--
Level	National
Mechanism	T-MARC

Proposed Actions

In order to support the move to ACTs, a coordinated BCC campaign will be designed to promote legitimate ACT awareness and use for pharmaceutical and health providers and the general public. Messages to providers and consumers will center on: awareness of the new NMCP policy on ACTs; discourage the use of previous SP/chloroquine treatment; discourage mono-therapy treatment; encourage use of ACT in both public and private facilities; adherence to the entire treatment regimen, and encourage rational ACT use. The campaign will emphasize where and how consumers can identify genuine quality-assured ACT products. This campaign will help the NMCP and ZMCP to ensure that only legitimate ACTs are provided in the private sector and minimize the use of artemisinin mono-therapies.

The implementing mechanism will be incremental funding to the bilateral T-MARC Contract.

8.C MONITORING AND EVALUATION PLAN

The PMI has adopted a general monitoring and evaluating framework that has been adapted to the context of each country. According to this framework, specific activities are monitored on a regular basis to allow in-country program managers to assess progress and redirect resources as needed. Activities within four main intervention areas, ITNs, IRS, IPTp, and case management with ACTs, will be tracked through periodic reports from groups providing

commodities, health facilities, and international and local partners. Types of activities that will be monitored will include procurement and distribution of commodities, availability of commodities for prevention, diagnosis and treatment of malaria, health worker performance, IEC efforts, supervision and training for health care workers, and monitoring drug and insecticide efficacy and effectiveness.

The evaluation framework is based on the PMI goal to reduce malaria deaths by 50% and to achieve coverage targets with specific interventions over the course of the program. The framework is aligned with the standard methodology for malaria program evaluation that is being adopted and promoted by WHO Roll Back Malaria. Program evaluation will be based on coverage outcomes that will be measured at baseline, midpoint and the end of the Initiative, and impact on malaria mortality, which will be measured at baseline and the end of the Initiative. Information used to evaluate program outcomes and impact in PMI will be collected primarily through household surveys of a representative sample of the national population. All-cause mortality and malaria-specific mortality in children under five (collected through verbal autopsies) will be interpreted together with data on anemia, parasitemia, available information on malaria cases and deaths reported from health facilities, rainfall and PMI coverage indicators to consider changes in mortality at the population level that can be attributed to reductions in malaria over the course of PMI.

8.C.1 Entomological Monitoring

Current Status – Mainland and Zanzibar

In the past, entomological monitoring has been conducted on both Zanzibar and the Mainland in order to characterize the predominant vector species and estimate entomological inoculation rates. These activities have been conducted ad hoc, when resources are available, and without routine budget support from NMCP or ZMCP. Because PMI is introducing or expanding vector-control interventions, it will be necessary to monitor mosquito populations to determine changes in vector densities, behavior, and insecticide tolerance.

ZMCP has collaborated with the University of Dar-es-Salaam and collected entomology data from 3 sentinel sites. This was last completed in 2004-2005 using resources from the Italian Cooperation. No additional sampling has been conducted since the widespread distribution of LLINs in the Zanzibar islands, nor since the introduction of IRS. PMI identified $50,000 in FY06 funds to support another round of data collection for entomologic monitoring on the isles. These studies include pit traps, light traps and human landing collections. The timeline for the study is May 2007 with results disseminated by July 2007. Sporozoite rates are estimated using Enzyme-Linked ImmunoSorbent Assay (ELISA) on dissected mosquitoes. In addition, the introduction of LLINs and IRS will require additional testing including experimental hut studies, and bioassays to monitor insecticide efficacy and effectiveness. These can be completed in Mainland Tanzania with support from the National Institute for Medical Research.

Entomological Monitoring		
Cost	Mainland	$20,000
	Zanzibar	$80,000
% Commodities		--
Level		District
Mechanism		CDC CA

Entomological monitoring on Mainland Tanzania has been conducted primarily by research institutions without funding or input from the NMCP. As a result, longitudinal data are not

consistently available from the same sites over time. One setting where there are baseline data is the Rufiji River Basin, where entomological monitoring has been conducted in parts of Rufiji, Kilombero and Ulanga Districts between 2001 and 2004. These sites also participate in a large demographic surveillance system. Repeating mosquito collection and estimating sporozoite rates will be desirable as PMI interventions roll out in Mainland Tanzania as well. To date, the PMI country team has not identified specific resources to support entomological monitoring on the Mainland.

Proposed Actions – Mainland and Zanzibar

In FY07, $80,000 is allocated for entomological monitoring on Zanzibar and another $20,000 on Mainland Tanzania. Funds for entomological monitoring will be awarded directly to ZMCP and NMCP through a cooperative agreement with CDC. The cooperative agreement applications have been submitted and each includes a budget for entomology expertise and data collection. It is expected that FY06 funds for ZMCP will be available to the program by September 2006. Additional entomological testing on Zanzibar is required to evaluate the IRS program and effectiveness of polyethylene LLINs. Because it has not been specified in the Year 1 MOP, additional support for entomology activities on the Mainland will depend on CDC's ability to identify core funding or non-PMI resources. CDC may be able to support vector behavior studies through another mechanism and is currently engaged in discussions with NMCP and research partners. It will be necessary to coordinate entomological monitoring with the activities of the integrated vector management contractor.

The implementing mechanism will be cooperative agreements between the CDC and ZMCP and NMCP.

8.C.2 Focused Evaluation of the Infant, Under Five and Equity Vouchers

Current Status

The largest area of PMI support for in FY06 and FY07 is expansion of new voucher mechanisms to target infants, children under 5 and families who cannot afford to pay top-up prices for subsidized nets. These activities are planned for phased introduction, and will need to be evaluated closely so that NMCP and partners can adapt their programs before scaling up. The same was the case with the original vouchers for pregnant women, which originally were rolled out in a few select areas and subject to intense focused evaluation before nationwide expansion. Currently no funding is available to continue this sort of focused evaluation work on behalf of the TNVS beyond 2006, nor to address the impact of expanding the relatively straightforward TNVS through the addition of PMI activities.

Proposed Actions

It is essential that coverage of infants and under fives is monitored as new vouchers and mechanisms are introduced and that the different approaches to addressing the equity issues are fully evaluated to guide scale-up to regional and national levels. The program will be monitored through household, exit and voucher tracking surveys with specific qualitative studies designed to focus on equity issues and expansion of vouchers to infants and children under 5. These activities will be completed outside the HMIS, DSS, and routine RBM coverage surveys that will provide NMCP and ZMCP with data on intervention coverage in order to provide focused information in districts where PMI-led interventions such as the infant, equity and under 5 vouchers are targeted. These activities are meant to provide an ongoing opportunity for learning how best to implement the PMI-supported voucher mechanisms. They will include continuous collection of qualitative data and periodic quantitative information to guide the expansion of implementation. The findings will not slow the implementation of PMI-supported activities, but rather, provide early information on how to optimize them.

Evaluation Infant, <5, Equity Vouchers	
Cost	$700,000
% Commodities	--
Level	National/ Regional
Mechanism	CDC CA

a. Household and facility surveys in target districts. The aim of these surveys is to provide information about the impact of TNVS and the expanded vouchers on ITN coverage among target groups (children < 5 and pregnant women). Baseline coverage information estimates in under-fives were collected in June-August 2005 and these studies will be repeated in June/August 2006. The sample size for the TNVS M&E surveys is 300 households per district, which is powered to estimate overall coverage in under-fives with 5% precision. This will not be sufficient to detect changes in coverage in smaller groups (pregnant women and infants; and in the lowest socioeconomic quintile). For this reason, we are proposing a larger sample size in 2007 in the 6 equity voucher districts launched in PMI Year 1. The proposed sample size is 1,500 households per district in the 6 selected equity voucher districts. This level of precision will permit close observation of whether or not the different district approaches are achieving equitable rates of ITN ownership and use. However, to conserve resources, the final sample size will only be large enough to describe statistically significant differences in the aggregate (comparing all equity-voucher districts with others).

Findings will guide the selection of an equity voucher approach that is most likely to be effective when scaled up nationwide. Intermediate indicators relating to knowledge and awareness of the new vouchers, rates of delivery and redemption of vouchers among infants and poor women and the effects on timing of ANC use and well child clinic visits will also be investigated.

The facility survey will provide information about:

- Availability of equipment and supplies for antenatal and postnatal services, services offered, supervision and utilization
- Conduct and content of health education sessions, particularly as they pertain to malaria in pregnancy
- Knowledge and use of the voucher scheme, ITN use in pregnancy and knowledge of malaria in pregnancy, among women attending RCH services.

The facility survey will be conducted in 10 facilities per district (n=60 facilities) and 7 women per facility (n=420 women total). Fieldwork will take place during July-August 2007.

b. Voucher tracking. Voucher tracking will involve following a cohort of vouchers from central level, through each stage of distribution process (DMOs, RCH, mothers, retailers, exemption committee for equity vouchers, etc) in order to investigate issues related to voucher issuing and redemption process. This latter analysis addresses issues of leakages and misuses of vouchers answering the question whether vouchers are received by the targeted group.

The objectives of the voucher tracking study are to:

- Estimate the extent at which the vouchers reach the target group i.e. the under one year of age children and poor pregnant women
- Identify mechanisms for misuse
- Suggest measures to reduce misuse

Voucher tracking will take place in the 6 equity voucher districts.[3]

c. Qualitative investigations. Qualitative investigations will aim to study the processes by which the 2 additional vouchers operate. They will also be used to understand and interpret the "whys" arising from the quantitative household, facility and voucher tracking surveys.

The precise number of districts to be covered will depend on how many different distribution models are adopted for the 6 equity voucher districts. Assuming that 6 different models are implemented, qualitative work will be needed in each of the 6 districts. In addition, we feel it would be informative to analyze the operation of the Infant Voucher in 2 additional districts where the equity voucher is not operating – providing a total of 8 districts altogether. If funding is provided by GFATM for additional M&E in 2007, the 2 non-equity voucher districts could be funded through that activity, reducing the costs proportionately.

In each district qualitative work will consist of interviews with health workers, women attending ANC, groups of mothers and fathers, and the groups distributing the equity vouchers (NGOs, FBOs or community-based groups). In each district, these will be undertaken in 2 communities (2 facilities), and will take place after the infant and equity vouchers have been operating for 6 months.

These elements will be coordinated by the ITNs cell at NMCP. The implementing mechanism for the focused evaluation of new vouchers in the TNVS will be a cooperative agreement with the Ifakara Health Research and Development Centre, which is administered by the CDC.

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[3] It was proposed that the whole M&E programme currently funded by GFATM would be financed in 2007 by PMI. The Round 6 proposal includes resumption of funding by the GFATM from 2008 onwards. The household and facility surveys and voucher tracking will be conducted in all 21 sample districts, not just the 6 Equity Voucher districts.

Table F: Timeline of Focused Evaluation Activities for ITN Vouchers using Fiscal Year 2007 Funds.				
Item	1st Quarter 2007	2nd Quarter 2007	3rd Quarter 2007	4th Quarter 2007
Community and facility surveys		**X**	**X**	
Voucher tracking	**X**	**X**	**X**	**X**
Qualitative investigations			**X**	
Analysis and dissemination				**X**

8.C.3 Demographic Surveillance System Site Support

Current Status -- Mainland and Zanzibar

A central objective of PMI is to reduce malaria specific mortality by 50%. Measuring cause-specific mortality is a difficult task in settings like Tanzania, where most people die outside of health facilities and vital statistics are not routinely collected. The Demographic and Health Surveys conducted by USG partners and the National Bureau of Statistics (NBS) can provide a very valid estimate of overall mortality based on nationally representative samples. However, these surveys do not track specific causes of death. Cause-specific mortality can be monitored via verbal autopsy interviews, which are completed at several DSS sites throughout the country.

During the late 1990s the MOHSW and Adult Morbidity and Mortality Project (AMMP) operated DSS sites in more than 6 districts throughout the country and developed national standards for demographic surveillance and attributing cause of death. Unfortunately, most of these sites are no longer actively collecting data. Approximately 170,000 people in Rufiji, Kilombero and Ulanga Districts are currently enrolled in DSS sites operated by Ifakara Health Research and Development Centre since 1997. Together these sites represent the largest population under continuous demographic surveillance in sub-Saharan Africa. Per year operating costs total $500,000.

On the isles, ZMCP has collaborated with the Johns Hopkins University and Public Health Laboratory/ Ivo de Carnero Foundation (PHL) on a recently completed evaluation of micronutrient supplementation. The trial included a community-based system for monitoring child mortality and morbidity. Resources are available to continue this level of surveillance, to validate the verbal autopsy interview, and to expand the effort to track mortality among persons of all ages. These DSS activities will essentially include the entire population of Pemba. PMI and ZMCP have had discussions with the investigators who can provide baseline and follow-up data for evaluating the public health impact of PMI and related malaria interventions.

Proposed Actions -- Mainland and Zanzibar:

PMI has identified $200,000 in FY06 and $300,000 in FY07 funding to support these ongoing DSS sites. These amounts to support Mainland DSS sites have been included in the CDC cooperative agreement with IHRDC and the first of the funds will become available in August 2006. In addition to supporting routine DSS and verbal autopsy activities, CDC and USAID officials will work with DSS managers to enhance the collection of data on care-

seeking behaviors. The FY07 MOP includes $100,000 to contribute to this effort which can be allocated to Johns Hopkins University (JHU) through field support to the Global Research Activity. ZMCP and their research partners have also prioritized an additional mortality follow-back survey that would estimate
mortality on Unguja. To date, no PMI resources have been programmed for this purpose.

A necessary first step will be to assess the DSS data available throughout the country that can serve as a baseline for assessing the impact of PMI interventions, which will be available in November of 2006. CDC has included a preliminary data analysis workshop in its FY 2007 cooperative agreement with IHRDC. This will include site managers from active DSS's including IHRDC and Johns Hopkins/PHL as well as other sites where data collection is not currently active but baseline information may be. DSS sites collect data and complete verbal autopsies 3 times per year. It is usually possible to make stable estimates of child mortality at intervals of six months. After the initial workshop to establish baseline estimates, data analysis and reporting will be completed at least once per year.

DDS Site Support	
Cost Mainland	$200,000
Zanzibar	$100,000
% Commodities	--
Level	National/ Regional
Mechanism Mainland	CDC
Zanzibar	JHU/GRA

This aspect of monitoring and evaluation will include longitudinal surveillance within the DSS areas for coverage indicators, population demographic and rainfall factors, and all-cause and malaria-attributed morbidity and mortality, including verbal autopsy as an attempt to estimate malaria-specific mortality. This activity will be accomplished by supporting 40% of the operating costs of the DSS under the Ifakara cooperative agreement and technical supervision by CDC. Partial funds for this activity became available at CDC June 2006 and will be awarded to IHRDC pending approval of their cooperative agreement renewal application, anticipated by September 30, 2006. Also in September 2006, IHRDC and CDC will convene a data analysis workshop for DSS data managers from IHRDC and other institutions operating demographic surveillance in other parts of the country. The objective of this workshop will be to establish baseline mortality indicators for PMI and establish a plan for ongoing evaluation. This activity will be implemented in Tanzania prior to developing a common approach for all PMI countries.

8.C.4 General M&E

Current Status – Mainland and Zanzibar

Small monitoring and evaluation units are functional in both the NMCP and ZMCP and each program maintains a database of malaria cases diagnosed and treated at health facilities, conducts regular RBM coverage surveys, and provides occasional supportive supervision to endemic districts to help monitor the delivery of national strategies for malaria control. In practice, however, these basic monitoring and evaluation activities are poorly staffed and under funded. Resources and fuel are scarcely available to complete more than a fraction of proposed supervision visits, routine health facility data are often incomplete or missing requiring extensive follow-up visits, and routine coverage surveys frequently suffer from insufficient sample sizes and poorly representative sampling strategies demanded by the limited funding available. Both ZMCP and NMCP prioritized additional support for monitoring and evaluation activities in their requests for FY06 and FY07 PMI funding.

Proposed Actions – Mainland and Zanzibar

CDC has sought proposals for improved monitoring and evaluation activities from all malaria control programs in PMI countries. Both NMCP and ZMCP responded and have prepared M&E plans for consideration. It is expected that CDC will be able to support cooperative agreements with both programs using PMI resources for the following groups of activities:

a. Improving routine malaria control data bases. Strengthening routine health management information systems (HMIS) data collection and management on the Mainland will be supported in the amount of $35,000 through cooperative agreement and technical supervision of NMCP by CDC. Similarly $25,000 is sought to support routine HMIS data collection via a CDC cooperative agreement with ZMCP. Health information systems data includes routine program data from the national malaria control program on quantity of ACTs purchased and used, human resources and financial inputs, etc from all reporting health facilities in the country. Health information system data also includes information on the number of outpatient malaria cases, inpatient malaria cases and deaths, inpatient severe anemia cases, inpatient blood transfusions, malaria cases confirmed by rapid diagnostic test and malaria microscopy, and total number of inpatient admissions for all diagnoses (as a proxy for overall hospital utilization). These indicators can be stratified by age and preferably assessed on a health facility level to be reported monthly to the district and quarterly to the national malaria control program and PMI/partners. Quarterly reports of routine data will assist malaria control planners in marking trends in malaria cases and delivery of interventions.

General M&E	
Cost Mainland	$295,000
Zanzibar	$150,000
% Commodities	--
Level	National
Mechanisms	CDC CA

b. Roll Back Malaria Coverage Surveys. Health facility and household surveys using RBM methods to examine RBM indicators were conducted in 2005 and are scheduled again for 2007. These methods have been developed by the WHO regional office for Africa and are recommended for all malaria endemic countries in the region. These activities include rapid non-representative samples from sentinel communities and health facilities. They are distinct from the Malaria Epidemiology Reference Group's (MERG) malaria indicator survey but cover many of the same points. By repeating these assessments every two year NMCP/ ZMCP and partners are able to monitor progress toward their coverage goals at more frequent intervals and lower cost than a representative population-based study would allow. Both NMCP and ZMCP have adopted this methodology for monitoring progress toward implementation of their strategic plans for malaria control.

The PMI generally favors the collection of representative population-based data and supports the global MERG initiative to collect this through malaria indicator surveys. However, the ZMCP and NMCP are still operating under earlier guidance from the Africa Regional Office. Supporting these surveys in 2007 will permit both national programs to finalize the data collection for their medium-term strategic plans (2002-2007 and 2002-2008). PMI will work with WHO global and regional representatives to coordinate guidance to malaria endemic countries so that standardized indicators and approaches are adopted by national, regional, and international partners.

The 2007 surveys on Mainland and Tanzania will be supported in the amount of $85,000 along with an additional $65,000 for ZMCP. These resources will be coordinated with

resources from other donors including WHO and Italian Cooperation. Routine RBM coverage surveys will provide health facility and community-based coverage estimates for malaria control interventions including ITN coverage and use, prompt management of childhood fever, and IPTp for pregnant women. Through PMI support, NMCP and ZMCP will be able to maintain these activities in 21 and 10 districts, respectively, and will be able to include biomarkers including malaria parasitemia and anemia in surveyed households. CDC will provide technical input and oversight of these activities through cooperative agreements with the respective ministries of health.

c. Supervision and quality assurance. $50,000 has been allocated to enhanced supervision and quality assurance for the Mainland and $35,000 to Zanzibar. The NMCP and ZMCP strategic plans acknowledge that planned supervision visits occur only rarely, usually for lack of funds. Without supportive supervision, NMCP has little opportunity to improve the implementation and delivery of its interventions. In addition, national level staff may be unaware of relatively simple problems until such time as a biannual assessment is planned. PMI funds will support ZMCP and NMCP staff to complete supervision visits every other month, including per diem and vehicle expense. Districts and facilities for supervision will be prioritized according to criteria such as accessibility, geography, levels of endemicity and other factors indicating high risk for malaria, and areas indicating previous management or implementation problems. Supervisors will use checklists to record their findings, and incorporate data into quarterly HMIS reports and presentations for NMCP and partners. They will also feed the information into regular updates of national malaria guidelines and training manuals. Selection of districts and health facilities for supervisions visits will be made by program managers in collaboration with CDC and other PMI Partners. It will be important that these sites represent typical districts in a variety of transmission settings, and that some districts with early implementation interventions supported by PMI (expanded TNVS, equity vouchers, RDTs, severe malaria, ADDOs) are included. Revisits to readdress problem areas will be a priority for a subset of supervision visits.

NMCP and ZMCP will establish a schedule of supervisory visits according to the level of need by districts and facilities (as mentioned above). A standard checklist and supervisory guidelines will be developed and refined based on existing NCMP and partner materials. The tools will be integrated with supervision of other priority programs (IMCI, etc.). Key malaria activities to be monitored will also incorporate performance indicators to be used in the 2007 RMB health facility survey.

Examples of practices to be monitored include:

- Health facilities: management of patients in outpatient clinics, management of severe malaria, availability of drugs and health education materials, quality of registers, dispensing of anti-malarials during ANC according to guidelines, distribution of vouchers by target population, supplies and appropriate use of RDTs.
- ADDOs: dispensing practices for ACTs, adequate supplies, information provided to customers on the drugs.
- ITN outlets: appropriate supplies of ITNs, redemption practices for each type of voucher (pregnant women, infants, under-fives, “equity” 100% subsidy).
- Community: ITN hanging and use in households.

During visits, malaria control staff will interview staff, view supplies of drugs and vouchers, review registers, observe case management, visit a selection of households in the nearby

community, and provide immediate oral or written feedback before departing. Staff will summarize findings from supervisory visits in quarterly reports to the program manager and partners, and will address critical issues during weekly meetings with program managers. A sample of checklist data will be entered into a database that will be incorporated into the HMIS for national reporting, and for updating training guidelines and methods.

d. CDC travel and technical support. Finally, the General M&E budget includes $150,000 to support CDC staff to travel for expert consultation on M&E activities and managing the PMI-related cooperative agreements.

Table G: General Monitoring and Evaluation Allocation by Activity

Activity	Mainland NMCP	Zanzibar
a. Improving routine malaria control data bases	$ 35,000.	$ 25,000.
b. Roll Back Malaria Coverage Surveys	$ 85,000.	$ 65,000.
c. Supervision and quality assurance	$ 50,000.	$ 35,000.
d. CDC travel and technical expertise	$ 125,000.	$ 25,000.
TOTAL	$ 295,000.	$ 150,000.

Implementation mechanism for general M&E activities will be the CDC cooperative agreements with ZMCP and NMCP. It should be noted that Tanzania will require more TDY support than other PMI countries because CDC staff and partners are more directly involved in a number of implementation and monitoring and evaluation activities. The management of funding mechanisms and collaboration with the two ministries of health will require more support than other countries.

9. STAFFING AND ADMINISTRATION

Current Status – USAID - CDC

Two expatriate health professionals will be hired to oversee the PMI in Tanzania, one representing CDC and one representing USAID. In addition, one or more FSNs or USPSCs will be hired to support the PMI team. All PMI staff members will be part of a single inter-agency team led by the USAID Mission Director or his/her designee in country. The PMI team will share responsibility for development and implementation of PMI strategies and work plans, coordination with national authorities, managing collaborating agencies and supervising day-to-day activities. Candidates for these positions will be evaluated and/or interviewed jointly by USAID and CDC, and both agencies will be involved in hiring decisions, with the final decision made by the individual agency.

It is envisioned that the PMI professional staff will work together to oversee all technical and administrative aspects of the PMI in Tanzania, including finalizing details of the project design, implementing malaria prevention and treatment activities, monitoring and evaluation of outcomes and impact, and reporting of results. All staff members will report to the USAID Mission Director or his/her designee. The CDC staff person will be supervised by CDC both technically and administratively. All technical activities will be undertaken in close coordination with the National Malaria Control Program and Zanzibar Malaria Control Program of their respective Ministries of Health and Social Welfare and other national and

international partners, including the WHO, UNICEF, the GFATM, World Bank and the private sector.

Locally-hired staff to support PMI activities either in Ministries or in USAID will be approved by the USAID Mission Director. Because of the need to adhere to specific country policies and US Government accounting regulations, any transfer of PMI funds directly to Ministries or host governments will need to be approved by the USAID Mission Director and the USAID Controller.

Proposed Actions – USAID – CDC

In FY07, the USAID FSN funding will be shifted to PMI. As the Integrated Vector Management Project will end in March 2007, funds are being reserved to hire the Zanzibar Advisor under a different mechanism. The CDC PMI coordinator will be replaced in FY07 and the CDC will hire an additional FSN PMI Administrator.

Additionally, $125,000 is budgeted in monitoring and evaluation for CDC travel and technical expertise. The Contract for the Technical Advisor under JSI Tasc II will continue. The USAID FSN's salary and expenses will be charged to PMI. The Technical Advisor in Zanzibar's salary will be picked up at the end of the Integrated Vector Management Project in March and covered for one year.

CDC - Monitoring and Evaluation Advisors

Current Status – Mainland and Zanzibar

Both Mainland and Zanzibar MOHSWs are facing substantial personnel constraints. This is particularly true for the monitoring and evaluation activities of the malaria control programs. Both ZMCP and NMCP requested PMI provide direct personnel support for hiring an epidemiologist for their Monitoring and Evaluation needs.

Proposed Actions – Mainland and Zanzibar

PMI will hire two epidemiologists as M&E advisors to provide expert guidance and supportive supervision to work within the NMCP/ZMCP to facilitate capacity building, health facility supervision, and coordination of programmatic linkages and M&E efforts at the national and district levels. These persons will be responsible for providing support to the program managers for assessing intervention scale-up activities, especially those occurring at health facilities (e.g., case management of malaria cases seen at outpatient health facilities). While the NMCP/ZMCP are responsible for providing training for health workers and disseminating written clinical practice guidelines and job aides for clinical management, the M&E Advisors would support activities that improve data collection quality and timeliness through the HMIS and activities to enhance health worker performance (i.e. activities in addition to "usual" activities, such as training) through supportive supervision

CDC M&E Advisors	
Cost Mainland	$15,000
Zanzibar	$15,000
% Commodities	--
Level	National
Mechanisms	CDC IAA

and quality improvement strategies. These persons would be expected as part of their duties to interact with all units of the control program, district and health facility staff, members of the community and private sector, and President's Malaria Initiative personnel at CDC and USAID, as well as investigators charged with assessing individual GFATM and PMI initiatives.

Minimum qualifications include: background in quality improvement in public health, experience with supervision and management, experience with HMIS or DSS data collection. Clinicians with public health experience or individuals with second degrees in epidemiology or related quantitative fields will be eligible to apply. The selected candidate will demonstrate excellent interpersonal communication skills, excellent writing and speaking in English and Kiswahili, familiarity with computer software used in the NMCP and its partners (Microsoft Excel, Epi-Info, and Stata).

The PMI M&E Advisor/Expert Supervisors will sit in the malaria control programs in the M&E cell or unit. Specific activities would include supervisory visits to health facilities to observe, monitor, and provide guidance and quality feedback on use of artemisinin combination therapies, rapid diagnostic tests (where implemented), prevention of malaria in pregnancy through IPTp, and use of ITNs and vouchers distributed in clinics or in the community. The advisor will analyze monthly data from health facility and district reports to routinely monitor malaria prevention interventions and case management, use existing indicators and refine supervisory questionnaires, identify health facilities or districts were there are problems, and work with district and facility staff to develop solutions. This advisor would specifically work within the NMCP/ZMCP to champion quality improvement and build capacity for quality improvement in the Ministry of Health, by providing training to all units of the NMCP with respect to Quality Assurance and data management and supervision activities. Funds may be used for equipment (e.g., a desktop computer, or paper surveys or personal digital assistants for supervisors that have been programmed to help supervisors collect data on health worker performance and related data, such as the availability of equipment, medicines, and other supplies at health facilities), and travel to health facilities for the M&E expert advisor along with other members of the control programs.

Funds will support the M&E Advisors to communicate within Malaria Control and partners to maintain a database and summarize data on a regular basis. The funds may also be used to support data management training or equipment (e.g., a computer) plus travel if needed to visit hospitals to abstract data from hospital records. Data should be shared within the NMCP to help identify districts or regions that could benefit from supportive supervision. Data would be reported monthly within NMCP and regularly to PMI. Data managers would assist with elaboration and dissemination of malaria monitoring charts to districts. These advisors will be hired through PMI and seconded to the NMCP and ZMCP.

Table H: Staffing and Administration Budget ($)			
Staff/ Consultants	**FY2006**	**FY2007**	
M&E Advisor		30,000	
CDC Advisor	333,000	400,000	
CDC Administrator		60,000	
JSI – TASC II	200,000	350,000	
PMI – FSN		60,000	
Zanzibar Advisor		75,000	
TOTAL	533,000	975,000	

10. COMMUNICATION AND COORDINATION

Key to the success of PMI will be how it fits, complements and coordinates activities with government, development partners and with USAID and CDC headquarters. All PMI technical activities will be undertaken in close coordination with the NMCP and other national and international partners, including the WHO, UNICEF, the GFATM, World Bank and the private sector.

PMI – Tanzania understands that communication and coordination will require constant vigilance and that there might be a steep time cost for ensuring that stakeholders are informed and participating in PMI. In Tanzania, PMI made sure that a transparent consultative process was followed in the development of the PMI strategy and work plan for years one and two. As a result, all stakeholders strongly buy into the current PMI strategy and year 2 work plan. This process will continue to guide our efforts in Tanzania. However, it must be made clear that in the case of Tanzania a double effort in communication and coordination will be required as we are essentially dealing with two programs—Mainland and Zanzibar.
At the country level, PMI will coordinate through mechanisms already existing in the Mainland and Zanzibar. Such mechanisms include the National Malaria Advisory Committee (NMAC), the various sub-committees (e.g. case management, vector control, IEC, etc.) and the Inter Agency Malaria Coordinating Committee (IAMCC). PMI has already been invited to participate in the National Insecticide Treated Net Programme (NATNETS) as a way to coordinate efforts with partners already involved with ITNs. Additionally, PMI will also work through the Development Partners – Health (DPH) group to ensure that all are informed and on board with PMI work plans.

PMI has been allocated office space in both the NMCP and the ZMCP. This will facilitate communications between technical staff and will ensure that PMI works closely with the respective programs. PMI has instituted monthly and quarterly coordinating meetings with the NMCP. To ensure that PMI contractors are clear that NMCP is the ultimate leader of their activities, contractors have been invited to participate in the monthly meetings and report on their activities and plans. Initially, only a few contractors were invited, but during this second year, all contractors will be invited and required to participate.

Communication with USAID and CDC headquarters is already effective through e-mail, phone and fax. Visits from HQ staff will be encouraged to enhance already efficient communications.

11. BUDGET AND SUMMARY TABLES FOR INTERVENTIONS

Table 1

President's Malaria Initiative – Tanzania
Year 2 (FY07) Timeline of Major Activities

ACTIVITY	2006	2007											
	OCT-DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
MALARIA PREVENTION													
A.1 INTERMITTENT PREVENTIVE TREATMENT (IPT) – MAINLAND													
In-service training of ANC providers on IPT/ITN/FANC													
Supportive follow-up of providers in offering FANC services, including IPT, using SBM-R approach													
Pre-service Education for Diploma and Higher level Nurse/Midwifery schools in FANC													
Increase national awareness/ community mobilization of IPT/ITN/FANC													
Facilitate reduction of key ANC supplies stock outs													
Improve enabling environment for Safe Motherhood													
A.2 MALARIA IN PREGNANCY – ZANZIBAR													
Update/disseminate Malaria in Pregnancy Guidelines													
Refresher training for IPT with new guidelines													
Conduct supervisory visits to facilities implementing IPT													
Introduce IPT to private sector													
A.3 EXPANSION OF TNVS													
Ongoing Implementation of Pregnant Women vouchers													
Expansion to Children <5 – Mainland in 4 regions													
Ongoing Implementation of the Infant voucher													

ACTIVITY	2006	2007											
	OCT-DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
program													
Implementation of Safety Net Voucher Program													
A.4 PROCUREMENT OF INSECTICIDE TREATMENT KITS FOR BUNDLING AND FACTORY RETREATMENT													
Purchase kits and distribute to TNMs													
Bundled and factory treatment of LLINs begins													
A.5 Support to TNMs													
Procure and installation of new equipment to two													
Train TNM on use of QA equipment and protocols													
Initiate production by equipped factories													
TNMs Begin independent QA monitoring of factory-treated LLINs.													
Work with the two smaller TNMs to help them introduce factory pre-treatment of LLINs													
A.6 LLINs FOR ROUTINE DISTRIBUTION													
Distribution of LLINs through ZMCP-determined distribution points.													
A.7 DEMAND CREATION & BCC MAINLAND													
Create awareness on malaria prevention through ITN use –mass media and community													
A.8 DEMAND CREATION & BCC – ZANZIBAR													
Create awareness on malaria prevention through ITN use –mass media and community													
A.9 URBAN MALARIA CONTROL MAINLAND													
Continue activities in Burunguri, Mikocheni and Kurasini													
Add Vingunguti, Ilala, Mwananyamala, Magomeni, Keko and Mtoni to plan and begin implementation													
A.10 EPIDEMIC SURVEILLANCE AND IRS MAINLAND													
Develop PERSUAP for Muleba													
Procure IRS materials													
Start training supervisors, sprayers, procure													

ACTIVITY	2006	2007											
	OCT-DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
materials													
Conduct spraying													
Assess entomological data and monitoring													
Prepare final draft of epidemic manual													
A.11 INDOOR RESIDUAL SPRAYING – ZANZIBAR													
Order commodities													
Re - training of IRS teams													
IRS Conducted													
Entomological Data Collection													
MALARIA DIAGNOSIS AND TREATMENT													
B.1 INTRODUCTION OF RDTS MAINLAND													
Health Worker training													
Deployment of RDTs													
B.2 RAPID DIAGNOSTIC TESTs - ZANZIBAR													
Deployment of RDTs													
Evaluation													
B.3 TRAINING AND SUPERVISION FOR ACT ROLL OUT – MAINLAND													
Evaluation Prepare training plan with NMCP													
Initiate training													
B.4 ACTS to ADDOs													
ADDO workers trained													
ACTs available through ADDOs													
B.5 ACTS FOR REFUGEES													
ACTs cleared from port and distribute to camps													
B.6 MANAGEMENT OF SEVERE MALARIA													
Training and implementation													
Monitoring and supervision													
B.7 STRENGTHEN MEDICAL STORES													
Assessment of MSD													
Coordinate with PEPFAR and other donors the													

ACTIVITY	2006	2007											
	OCT-DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
support to MSD													
Provide MSD support													
B.8 ACT PROMOTION AND USE													
Develop objectives and design strategy for BCC campaign													
Implement strategy													
MONITORING AND EVALUATION													
C.1 Entomological Monitoring													
Study conducted													
Dissemination of results													
C2. TNVS EVALUATION													
Community and facility surveys													
Voucher tracking													
Qualitative Investigations													
Analysis and dissemination													
C3. DSS SITE SUPPORT													
DSS data/verbal autopsy baseline													
Data collection													
Data analysis and reporting													
C4. GENERAL M&E													
Improving Routine Malaria Control Database													
Roll Back Malaria Coverage Surveys													
Supervision and quality assurance													
CDC Travel and Technical Suppport													

Table 2: Procurement Plan FY2007

Proposed Activity	Mechanism	Budget US$	Commodities US$	Commodities %	Geographic Area
A. PREVENTIVE ACTIVITIES					
1. IPTp – Mainland	ACCESS	1,750,000	--	--	Mainland
2. Malaria in Pregnancy Zanzibar	ACCESS	50,000	--	--	Zanzibar
3. ITNs--Support to TNVS	MEDA CA, Competed CA/NGO	7,650,000 500,000	5,977,000	73%	Mainland
4. Insecticide Treatment Kit Procurement	Competed CA/NGO	5,150,000	5,150,000	100%	Mainland
5. Support to Tanzanian Net Manufacturers	NetMark Plus	500,000			Mainland
6. Zanzibar distribution and promotion of LLINs	Competed CA/NGO	150,000	--	--	Zanzibar
7. Demand creation and BCC – Mainland	Competed CA/NGO	2,600,000	--	--	Mainland
8. Demand creation and BCC – Zanzibar	Competed CA/NGO	70,000	--	--	Zanzibar
9. Larviciding - Urban malaria control in Dar es Salaam	Competed CA	400,000	100,000	25%	Mainland
10. Epidemic Surveillance and Response and IRS Mainland	Competed CA	800,000	300,000	38%	Mainland
11. Indoor Residual Spraying in Zanzibar	Competed CA	1,850,000	800,000	43%	Zanzibar
	Total Prevention $	**21,470,000**	**12,337,000**	**57%**	
B. CASE MANAGEMENT ACTIVITIES					
1. Introduction of RDTs in districts in Mainland	UNICEF CDC	500,000 100,000	500,000	83%	Mainland
2. Introduction of RDTs in districts in Zanzibar	UNICEF	165,000	130,000	79%	Zanzibar
3. Support training	TBD	325,000	--	--	Mainland

Table 2: Procurement Plan FY2007					
Proposed Activity	**Mechanism**	**Budget US$**	**Commodities US$**	**Commodities %**	**Geographic Area**
for ACT roll-out					
4. Artemisinin-based combination therapy for ADDOs	WHO MSH	500,000 50,000	500,000	91%	Mainland
5. ACTs for UNHCR refugee camps	WHO	350,000	350,000	100%	Mainland
6. Management of severe malaria	UNICEF CDC CA	100,000 290,000	100,000	26%	Mainland
7. TA to Medical Stores Department	Deliver 2	330,000	--	--	Mainland
8. ACT Promotion and Use	T-MARC	300,000	--	--	Mainland
Total Case Management		**3,010,000**	**1,580,000**	**53%**	
C. MONITORING AND EVALUATION					
1**. Entomological Monitoring**	CDC CA	20,000 80,000	--	--	Mainland and Zanzibar
2. Focused Evaluation TNVS	CDC CA	700,000	--	--	Mainland
3. DSS site support	CDC CA JHU	200,000 100,000	--	--	Mainland
4. General M&E	CDC CA	295,000 150,000	--	--	Mainland Zanzibar
Total M&E		**1,545,000**	--	--	
D. MANAGEMENT AND ADMINISTRATION					
1. PMI Country Staff – Zanzibar	TBD	75,000	--	--	Zanzibar
2. CDC Advisor	CDC – Inter Agency Agreement	400,000	--	--	
3. CDC Administrator	CDC IAA	60,000			
4. Technical Advisor	JSI (TASC II)	350,000			
5. USAID FSN	USAID	60,000			
6. M&E Advisor – Mainland	CDC CA	15,000	--	--	Mainland
7. M&E Advisor – Zanzibar	CDC CA	15,000	--	--	Zanzibar
Total Management & Admin		**975,000**	--	--	
Grand Total		**27,000,000**	**13,907,000**	**52%**	

Table 3 Tanzania – Year 2 Targets
Assumptions and Estimated Year 2 Coverage Levels

Year 2 Targets:

Targets for changes in selected indicators for PMI countries										
Country	2 dose IPTp		ITN use(<5's)		ITN use (Pregnant women)		IRS (targeted houses)		Febrile children receiving ACT	
	2005	2007	2005	2007	2005	2007	2005	2007	2005	2007
Tanzania: Mainland	22%	50%	16%	40%	15%	55%	0%	85%	<1%	40%
Zanzibar	14%	40%	22%	80%	26%	80%	0%	85%	36%	70%

Assumptions:

Avg size of household is 4.9 persons==7 million households (Tanzania DHS 2004)
Population of Tanzania (estimated): 34,400,000 (Tanzania DHS 2004)

Pregnant women: 4% of total population = 1,376,000 (Demographic Surveillance System)
Infants (children <1)[4]: 3% of population = 1,032,000
Children <5: 18% of population = 5,820,480 (Tanzania DHS 2004)

At risk population for malaria—93% or 32,336,000 (NMCP)
Households at risk for malaria—6.6 million households

Average number of malaria-like illnesses per year and cost per AM-LUM treatment:[5]

Children <5: 3.5 illnesses/year at $.68 each (avg of $.45 < 5kg and $.90>5kg)

Average of 2.0 nets/household needed to cover all pregnant women and children under five in a household based on average size of household; At least 75% net ownership is required to achieve 55% use for pregnant women and 60% net ownership is required to achieve 40% use in <5s[6].

[4] % Population of children under 1 is based on general demographic trends in Africa.
[5] Average number of malaria-like illnesses per year is based on average in Africa.
[6] Assumption is based on large difference between ownership and use found in the DHS 2004.

Inter-vention	Needs for 100% Nationwide Coverage over 3 Years	Needs for 85% Nationwide Coverage over 3 Years	Annual Needs to Achieve 100% Coverage	Needs to Achieve Year 2 PMI Targets	Year 2 Contributions
IPT	1,376,000x 2 treatments/woman = 2.75 million treatments/year x 3 years = 8.27 million treatments	7 million SP treatments	2.75 million SP treatments	**Target:** 50% *of pregnant women receive 2 doses of IPT* = 1.375 million treatments	MoH – funding SP treatments **Sufficient SP available to achieve coverage. PMI focusing on FANC and second dose of SP to achieve target through training.**
ITN	6.6 million households x 2.0 nets/household = 13.2 million ITN	11.2 million ITN	One-third of 11.2 million ITN = 3.7 million nets owned	**Target**: 40% *of children under 5 and 60% pregnant women sleep under ITN* 1.03 million pregnant women/child under 1 (75% ownership) 2.87 million children between age 1 and 5 (60% ownership) = 3.9 million ITNs	Preg women vouch/ITNs through GFATM/PMI funding==1, 246, 000* Under 5 and infant vouch/ITN through GFATM/PMI funding==1,401,000** Other under 5 and infant ITN through private sector estimated at 1.3 million*** **TOTAL** = 3,950,000 ITNs **Thus, more than 100% of Year 2 ITN needs are met**
ACTs –	5.4 million under 5 at risk	18.8 million x	18.8 million	**Target**: *40% of children*	GFATM for under 5– $6 million****

children < 5	x 3.5 episodes/year = 18.8 million treatments/year x 3 years = 56.6 million	85% = 16 million treatments x 3 yrs = 47.9 million	treatments	*under 5 receive ACTs (mainland)* 18.8 million x 40% = 7.52 million treatments==$5.1 million	PMI for under fives--$153,000 (18% of $850,000) TOTAL available for ACTs for under fives = $6.1 million. **Thus, more than 100% of Year 2 ACTs for under 5 target met.**
IRS	Houses in Zanzibar Islands plus targeted houses in Districts of Muleba and Karagwe	217,000 households in Zanzibar annually 35,000 households in mainland annually	217,000 households in Zanzibar 35,000 households in mainland	**Target**: *85% of targeted houses to be sprayed in Zanzibar* *75% of targeted houses to be sprayed in mainland* 210,700 households to be sprayed	PMI – 184,450 households scheduled for spraying in Zanzibar islands; 26,250 households scheduled for spraying in mainland **Thus, 100% of Year 1 needs are met.**

*See Table E-- Target number of PMI and GFATM provided vouchers redeemed by cohort and year

** Calculation based on 1,301,000 vouchers redemption for children under five and infants on mainland plus 100,000 ITNs through routine distribution on Zanzibar.

***Tanzania has a flourishing private sector market for ITNs. Projected sales in 2007 are estimated using data from "Techno-economic Feasibility Report—Manufacturing Long Lasting Insecticide Treated Nets in Tanzania" ; Manam Ltd; Anovotek LLC; PSI.

****Based on projected order on 6x1 and 6x2 children's doses from NMCP on mainland.

Table 4: Estimated Budget Breakdown by Intervention FY2007			
	Commodities	Other	Total
ITNs	67%	33%	$16,620,000
Indoor Residual Spraying	46%	54%	$2,650,000
Larviciding	25%	75%	$400,000
Intermittent Preventive Treatment	0	100%	$1,800,000
Case Management			3,010,000
Monitoring and Evaluation	0	100%	$1,541,000
Administration	0	100%	$975,000
TOTAL	52%	48%	$27,000,000

Table 5: Budget Breakdown by Implementing Partner			
Intervention	**Implementer**	**Amount ($)**	**Mechanism**
IPTp	ACCESS	1,800,000	Field Support
ACT Promotion	AED/T-MARC	300,000	Bilateral TO
Severe Malaria	CDC	290,000	FS IAA
Monitoring & Evaluation	CDC	1,425,000	FS IAA
RDTs	CDC	100,000	FS IAA
Personnel	CDC	460,000	FS IAA
Zanzibar BCC & LLIN Distribution	TBD	220,000	Bilateral CA
Surveillance	JHU/GRA	100,000	Field Support
Administration	JSI/TASC II	350,000	Bilateral TO
Medical Stores Department	DELIVER 2	330,000	Field Support
ITNs	MEDA (FBO)	7,650,000	Bilateral CA
Logistics Support & ADDOs	MSH/RPM+	50,000	Field Support
Training for TNVS	TBD	500,000	Bilateral CA
IRS, Epidemics & Zanzibar	TBD	3,050,000	Bilateral CA
Commodities ACT	WHO	850,000	Field Support
Commodities RDTs	UNICEF	765,000	Field Support
LLIN Insecticide Support	TBD	5,150,000	Bilateral CA
LLIN Technology Transfer	NetMark Plus	500,000	Field Support
FSN	USAID	60,000	Bilateral Contract
Mainland BCC	TBD	2,600,000	Bilateral CA
Training for ACT Roll-out	TBD	325,000	Bilateral CA
	Total:	27,000,000	

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