



**Episcopal Relief & Development
(ERD)/*NetsforLife*®
Anglican Diocesan Development and Relief
Organization (ADDRO)**

Malaria Communities Program: Ghana

FINAL REPORT

**Program Location: Bawku West and Garu-Tempene districts, Upper
East Region (UER), Ghana**

Cooperative Agreement Number: GHS-A-00-09-00006-00

Program Dates: October 1, 2009 – September 20, 2012

Date of Submission: November 14, 2012

Report Prepared by:

Abigail Nelson, Senior Vice President for Programs, Episcopal Relief & Development
Gifty Tetteh, Strategic Outreach Officer, *NetsforLife*®, Episcopal Relief & Development
Dr. Stephen Dzisi, Technical Director, *NetsforLife*®, Episcopal Relief & Development
Denise DeRoeck, Consultant Writer

Table of Contents

Introduction	1
A: Final Year Report: Main Accomplishments.....	2
B. Methodology for the project’s final evaluation.....	16
C. Main accomplishments of the MCP project	16
D. Questions related to MCP objectives.....	34
1. New USAID partners or networks identified by the project	34
2. Evidence of an increase in local capacity to undertake community-based malaria prevention and treatment activities during the project period	34
3. Evidence or indication that local ownership of malaria control increased for the long-term, in partnership with communities and the NMCP	34
4. Extension of the reach of PMI/NMCP to a larger population, including children under five and pregnant women.....	35
E. Factors that impeded progress and actions taken	36
F. Lessons Learned.....	36
G. Technical assistance received by NFL and ADDRO	37
H. Specific Information requested from PMI.....	37
1. What other community activities were catalyzed by the program and how community work will continue	37
2. Information about the condition of LLINs at 18 months	38
3. How plastic bags are disposed of after net distribution.....	38
I. Collaboration with the PMI team and its partners	39
J. Publications and Presentations at Major Conferences or Events.....	39

K.	Stories	39
L.	Photographs	43
	Annex 1. Net Usage Monitoring Sheet	53
	Annex 2. Criteria for volunteers serving as Malaria Control Agents	54

Acronyms

ACT	Artemisinin-based combination therapy
ADDRO	Anglican Diocesan Development and Relief Organization
BCC	Behaviour Change Communication
DHMT	District Health Management Team
ERD	Episcopal Relief and Development
GHS	Ghana Health Service
IEC	Information, education and communications
IPT	Intermittent preventive treatment
LLIN	Long lasting insecticidal net
MCP	Malaria Communities Program
M&E	Monitoring and evaluation
MOH	Ministry of Health
NfL	NetsforLife®
NGO	Non-governmental organization
NMCP	National Malaria Control Program
PLA	Participatory learning and action
PMI	President's Malaria Initiative (U.S. Government initiative)
RDT	Rapid diagnostic test
TOT	Training of trainers
UER	Upper East Region
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Introduction

This is the final report of the three-year Malaria Communities Program (MCP) that is being implemented in two districts – Bawku West and Garu-Tempene – in Upper East Region (UER) of Ghana by the Anglican Diocesan Development and Relief Organization (ADDRO) of the Anglican Diocese of Tamale, under the President’s Malaria Initiative (PMI). The goal of the PMI is to reduce malaria-related mortality and morbidity by 50% in target areas through the promotion of three malaria prevention and control interventions:

- 1) The use of long-lasting insecticide-treated bed nets (LLINs);
- 2) The administration of at least two doses of Intermittent Preventive Treatment with sulfadoxine-pyrimethamine (Fansidar) to pregnant women through antenatal care visits (IPTp); and
- 3) Prompt treatment of children under five with signs and symptoms of malaria with artemisinin-based combination therapy (ACT).

The program is jointly funded by the United States Agency for International Development (USAID) and the Episcopal Relief and Development (ERD). The Africa Regional Office of ERD in Ghana provides ADDRO with technical support to ensure the successful implementation of the program.

The UER is one of the poorest and most remote regions of Ghana, with 88% of its population living below the poverty line, as compared to 40% nationally. Eighty-seven percent live in rural, widely-dispersed communities. Before the MCP began, 22% of deaths in children under five and 61% of hospitalizations among these children in the region were due to malaria¹. More than 60% of pregnant women and children under five were anemic and susceptible to malaria mortality. Only 47% of mothers gave birth with skilled care².

The baseline survey conducted in 2010 in the two project districts found that only 28% of pregnant women and 69% of children under five slept under an LLIN the night before and only 20% of households had at least one net. About 62% of pregnant women received at least two doses of IPT during their last pregnancy and only 44% of children with fever in the prior two weeks had received prompt treatment with ACT.

The specific objectives of the MCP were to:

- Increase community capacity to undertake behavioural change communications (BCC) in support of key national malaria control strategies, specifically, LLIN distribution, IPTp and treatment of malaria with ACT;
- Increase to 85% the percent of pregnant women and children under five sleeping under an LLIN, the percent of pregnant women receiving two doses of IPT, and the percent of children receiving ACT within 24 hours of the onset of malaria symptoms through educational campaigns; and

¹ Demographic and Health Survey (DHS), Ghana, 2008.

² Ibid.

- Distribute LLINs in the project communities.

The project targeted 280 of the hardest-to-reach communities in the two districts, many of which are inaccessible by road much of the year. These communities make up 88% of the 318 communities in both districts, which have a combined population of around 229,300. While many of these communities are accessible to GHS clinics or those run by NGOs, communities that are not receive outreach services by the GHS on a regular basis.

The project has used an innovative community-based approach pioneered by NetsforLife® toward both promoting malaria prevention and control practices and distributing bednets. Instead of receiving malaria education primarily from government health workers operating from health facilities, Community Volunteers – the backbone of the project – and a variety of community leaders received training to empower them to educate their communities about malaria themselves. Education is provided through house-to-house visits by the volunteers and through community gatherings known as “durbars”, as well as via radio messages and discussion programs broadcast on local stations. While LLINs have normally been distributed at health facilities (e.g. to pregnant woman during antenatal care visits), the nets are distributed and hung by the volunteers going house-to-house to ensure that they are hung properly and will actually be used. The volunteers monitor the usage and condition of the nets during regular home visits to further promote and ensure their use. The involvement of the community leaders – in nominating the volunteers, in helping with educational activities and net distribution, and even in making monitoring visits on their own – has been a key strategy to ensure the successful implementation of the project in all 280 communities.

A: Final Year Report: Main Accomplishments

The Malaria Communities Program implemented by ADDRO in two districts of the Upper East Region in Ghana successfully met the milestones and objectives specified in the Year 3 workplan, including:

- Expanding the program to 80 new hard-to-reach communities in the two program districts by recruiting, training and supporting Community Volunteers in these communities, with the active involvement of community leaders;
- Providing education and promotion of malaria prevention and control measures supported by the program and the National Malaria Control Program (i.e., bednet use, use of IPT for all pregnant women, prompt treatment of children under five suspected of having malaria with ACT) in all 280 program communities through a range of communication methods and media, and with the active involvement of community leaders;
- Distributing and hanging nearly 100,000 long-lasting insecticide treated nets (LLINs) in program communities, as well as house-to-house monitoring of the use and condition of the nearly 20,000 nets distributed in prior years and the newly distributed nets;
- Conducting a series of training activities for different target groups (old and new Community Volunteers, chemical sellers, community leaders, GHS staff) to increase community knowledge and use of malaria prevention and control strategies; and

- Ensuring the continuation and sustainability of program activities and community practice of malaria prevention and control strategies, including proper use of LLINs, after USAID funding for the program ends in 2012 through supportive supervision of Community Volunteers, training of GHS staff, and a series of meetings with government health management teams and the communities to plan the program close-out and transition to GHS;

More details about these accomplishments and the factors contributing to them are shown in Table 1 by project objective, and described below.

Objective 1: Increase community capacity to undertake BCC/IEC in support of key national strategies, specifically, bednet (LLIN) distribution, two doses of IPT during pregnancy, and treatment with artemisinin-based combination therapy (ACT)

1. Expansion of program activities to 80 new, hard-to-reach communities

The MCP met the Year 3 objective of providing program services to 80 new communities in Year 3 to reach the program goal of serving 280 communities in the two target districts in the UER. As in the prior years, the selected communities were those that are inaccessible by road for much of the year and include many with limited access to government health services. To ensure strong support from and cooperation with the GHS and District Health Management Teams, the process began with a series of meetings with health directors, disease control officers, malaria focal points, and planning officers from the two program districts, during which the 80 communities were selected. The majority of the new communities (65 out of 80) are in Garu-Tempane district, where there remained more hard-to-reach communities not participating in the project. Following visits by ADDRO staff to several of the communities to assess their suitability, the list of 80 communities was finalized.

Two meetings in each of the new communities then took place during Quarter 1: 1) an initial meeting with community leaders, such as village chiefs, District Assembly members, religious leaders, and women leaders, to introduce them to the program, obtain their agreement to having the program implemented in their community, and ask that they recruit Community Volunteers that meet specific program requirements; and 2) a follow-up meeting with the leaders and members of the community, during which the proposed Community Volunteers were presented and endorsed by those in attendance. A total of 537 community leaders (an average of around seven per community) attended the first set of meetings, while 4,280 people – an average of 54 per community – took part in the follow-up, community-wide meetings. A total of 166 Community Volunteers – two each in most communities and three in a few larger communities – were selected, consisting of 130 men (78%) and 36 women (22%). As in the past, the preponderance of male volunteers is due largely to the high illiteracy rate among women in these remote communities, as basic education is one of the requirements for these volunteers.

The program's participatory approach – in which GHS leaders and staff at the local level were involved in selecting the new communities, and community leaders are consulted about the program and involved in selecting the volunteers from their community – is viewed as a critical factor in the successful recruitment of the 80 new communities and the volunteers to serve in these communities.

2. Training of community-based health providers, leaders and volunteers

Training of Community Volunteers

The 166 selected volunteers in the 80 new communities completed a two-day training during Quarter 2 held at the sub-district level. As in past years, the volunteers were trained in the malaria prevention and control strategies used by the MCP; the role of the Community Volunteers; correct hanging of LLINs and monitoring of their use and condition; how to educate community members about malaria prevention and control; and how to document and report their activities. Participatory Learning and Action (PLA) methods were used, including group work, discussions, and practical, hands-on exercises (e.g., hanging up of nets and role-playing in communicating with beneficiaries about malaria prevention and control interventions). Trainees were each given monitoring forms to complete monthly, a bicycle, IEC materials, a toolkit (for hanging nets) and a motivational kit, consisting of bags and polo shirts printed with the program name and messages about malaria.

To sharpen the skills of the volunteers recruited in Years 1 and 2 from the program's other 200 communities and to provide additional motivation, refresher training for these volunteers took place in each of the program's 12 sub-districts. The training focused on gaps identified during field monitoring by project staff; namely household monitoring of net usage, and effective behavioral change communication for malaria. Of the 564 Community Volunteers recruited in the first two years of the project, 544 volunteers or 96% attended these trainings, demonstrating a high retention rate and activism among volunteers.

Training of community leaders in the 80 new communities

In parallel with the training of Community Volunteers, ADDRO staff held a one-day workshop for community leaders during Quarter 2 in the new communities to increase their understanding of malaria prevention and control strategies, and the critical role of these leaders in ensuring the program's success in their communities. A total of 240 chiefs, women leaders, religious leaders and others from all 80 communities took part in the workshop.

Training of chemical sellers

As a follow-up to the training in Year 2 of 28 private community-based chemical sellers, 39 additional private, licensed chemical sellers from both program districts received a two-day training to improve their capacity to diagnose and manage uncomplicated malaria appropriately using ACT, and to refer complicated cases to health facilities. This exceeds the Year 3 target of training 30 chemical sellers and attests to their readiness to learn about current treatment approaches and to contribute to malaria reduction in their community. The training, which used the national training manual for malaria case management for chemical sellers, included IPT; the use of rapid diagnostic tests for malaria; and the correct handling, storage, dosage and use of ACT. In addition, the 28 chemical sellers trained in Year 2 received refresher training in the use of rapid diagnostic tests under the Global Fund's Affordable Medicines Project.

Training of government health staff (GHS)

As part of the effort to transition project activities to the GHS and to sustain the gains achieved by the MCP in the two districts, the project conducted a five-day training for 37 DHMT staff from both districts to increase their capacity to manage malaria cases brought to their facilities. The course included intensive training in malaria case management, malaria during

pregnancy, and monitoring and evaluation. Those trained included community health nurses, malaria focal points, disease control officers, midwives, district health directors and district health information officers.

3. Monitoring and supportive supervision for Community Volunteers and program staff

Community Volunteers in all 280 MCP communities were supported through three types of monitoring and supportive supervision activities: 1) regular monitoring and supportive supervisory visits by ADDRO district-based project officers to participating communities and the volunteers; 2) quarterly review meetings at the sub-district levels with Community Volunteers; and 3) regular visits to the field by senior ADDRO officials.

MCP project staff visited Community Volunteers in both the new and older communities on a monthly basis to oversee their work, offer them encouragement and provide technical support in areas of weak performance. During these visits, supervisors reviewed the volunteer's net usage monitoring forms, observed them during household visits and visited randomly-selected households to confirm the work of the volunteers. As part of the transition of program activities to GHS, GHS staff in communities where they are present took part in these monitoring and supervisory visits.

Quarterly review meetings with Community Volunteers took place in each of the program's 12 sub-districts in all quarters but Quarter 1 (due to a delay in the release of project funding). The meetings provided an opportunity to discuss issues and share experiences related to the volunteers' activities, to identify ways to overcome challenges, and to sharpen the volunteers' skills. The meetings in Quarter 2 were attended by 556 volunteers from the Year 1 and 2 communities (out of 564 recruited), for a participation rate of 98%. Participation of volunteers in the review meetings in Quarters 3 and 4, including those from the 80 new communities, averaged 98%. Also participating in these meetings were GHS staff (an average of 32 per quarter and community leaders (ranging from 22 to 137 per quarter) to help ensure the sustainability of program activities by the GHS and communities themselves once USAID funding ends.

To provide support to program staff and assess project implementation in the field, top officers from ADDRO, including the Executive Director, Program Manager, and M&E Officer, made a total of 35 visits in Year 3 to the 12 sub-districts, attending trainings and quarterly review meetings, and participating in monitoring visits to the communities.

Table 1. Project activities and accomplishments by objective: Year 3

Project Objectives	Indicators (from Year 3 Work plan)	Key Activities	Status of Activities	Comments
<p>Objective 1: Increase community capacity to undertake BCC/IEC in support of key national strategies, specifically, bednet (LLIN) distribution, 2 doses of IPT in pregnant women, and treatment with Artemisinin-based Combination Therapy (ACT).</p>	<p><i>Sub-objective 1.1: Undertake consultative meetings with district, sub-district and community leaders to ensure government and community support of program activities and a smooth transition of the project to Ghana Health Services (GHS)</i></p>			
	<p>Target: 80 new communities in the two target districts actively participating in project activities Actual: 80 new communities joined the project</p> <p>Target: 80 initial consultative meetings with community leaders held in new communities Actual: Consultative meetings took place with community leaders in all 80 new communities</p>	<p>Conduct initial consultative meetings with district officials to brief them on project and select new communities for Year 3</p> <p>Hold initial meetings with community leaders in each newly selected community to introduce project, plan activities and discuss how to select Community Volunteers</p>	<p>Targets achieved. The project expanded to 80 new communities in hard-to-reach areas that were selected during meetings with District Health Management Team (DHMT) members and planning officials in each district. Initial consultative meetings took place in Quarter 1 with community leaders in all 80 new communities, attended by a total of 537 persons.</p>	
	<p>Target: 200 Community Volunteers selected by the 80 new communities Actual: 166 volunteers selected</p>	<p>Select Community Volunteers in new communities through consultative community meetings</p>	<p>Two volunteers in each of the 80 communities were selected and endorsed during meetings attended by community members in all new communities.</p>	<p>The target of 200 was based on estimates of the number of compounds per community, since the project aims to provide one volunteer for every 20 compounds. The number of</p>

Project Objectives	Indicators (from Year 3 Work plan)	Key Activities	Status of Activities	Comments
				compounds was over-estimated in some communities, and thus 166 Volunteers were sufficient to cover all compounds in the 80 new communities.
	<p>Target: 3 meetings held with regional, district and sub-district Health Management Teams and District Assemblies</p> <p>Actual: 1 meeting held with stakeholders from both project districts</p> <p>Target: MOUs between NetsforLife® and DHMTs in both districts signed to specify strategies and plans for project activities following close-out</p> <p>Actual: MOUs not yet signed but planned for later in 2012</p>	Conduct project review and close-out meetings with DHMTs, GHS staff, District Assembly members and other stakeholders	<p>A meeting with DHMTs and District Assembly members was held in January 2012 to review project activities, accomplishments and challenges and to discuss plans for continuation of project activities following close-out. The meeting was attended by 62 people from both districts, including district health directors, malaria focal points, public health nurses, community health officers, and District Assembly members.</p> <p>An information dissemination meeting is planned for late November 2012 to share the final project evaluation results with stakeholders. It is planned that MOUs will be signed by the 2 DHMTs and NfL during this meeting.</p>	
	<p>Target: Clustered community “close-out” meetings held to cover all 280 MCP communities</p> <p>Actual: Community durbars</p>	Hold close-out meetings with members and leaders in all beneficiary communities to transit project activities to GHS.	Target achieved. A total of 146 close-out durbars were conducted in Quarter 4 to officially inform community members about the close of the project and to reinforce malaria prevention	

Project Objectives	Indicators (from Year 3 Work plan)	Key Activities	Status of Activities	Comments
	held, covering all 280 communities		messages. The durbars were attended by a total of more than 26,000 residents and leaders from all 280 communities.	
<i>Sub-objective 1.2: Conduct cascade trainings for district, sub-district and community leaders and for community volunteers</i>				
	<p>Target: 24 district malaria focal points from GHS + 13 ADDRO staff trained (total of 37 individuals)</p> <p>Actual: 36 DHMT staff trained from the 2 project districts</p>	Train malaria focal points and other GHS staff from both districts plus ADDRO staff on National Malaria Control strategies, participatory learning approaches, and monitoring and evaluation	Thirty-six GHS staff from the two districts received a five-day intensive training in malaria case management (3 days), malaria in pregnancy (1 day), and monitoring and evaluation (1 day), surpassing the target number of GHS staff to be trained.	Persons trained included malaria focal points, community health nurses, district health directors, disease control officers, among others
	<p>Target: 200 Community Volunteers complete two-day training</p> <p>Actual: 166 Community Volunteers trained</p>	Train Community Volunteers in new communities to carry out educational, monitoring, and LLIN distribution and hanging activities in their communities	All 166 Community Volunteers selected from the 80 new communities completed a two-day training on key malaria prevention and control interventions and their role in these efforts. The training took place in Quarter 2 in nine sub-district level training sessions.	
	<p>Target: 200 volunteers receive motivational kits and bicycles</p> <p>Actual: All 166 new volunteers given kits and bicycles</p>	Provide Community Volunteers in new communities with motivational kits and bicycles	All Community Volunteers in the 80 new communities were given bicycles, bicycle repair kits and parts, bags and polo shirts (the latter 2 with the PMI/MCP name and messages), including during ceremonies in two sub-districts attended by the Project Manager and representatives from DHMTS and District Assemblies.	

Project Objectives	Indicators (from Year 3 Work plan)	Key Activities	Status of Activities	Comments
	Target: 564 volunteers re-trained for one day Actual: 544 volunteers retrained	Conduct refresher training for Community Volunteers in Year 1 and 2 communities	Achieved: 96% of Community Volunteers from Year 1 and 2 communities received one-day refresher training in Quarter 3 via 12 sub-district level training sessions	
	Target: 320 leaders trained in the 80 new communities Actual: 240 leaders trained	Train chiefs and community leaders in the new targeted communities	A workshop attended by 240 community leaders (75% of target) from all 80 new communities was held in Quarter 2 to broaden their knowledge of malaria prevention and control methods and stress their role in project's success.	
	Target: 30 chemical sellers trained Actual: 39 trained	Conduct two-day training of private chemical sellers to improve their ability to correctly perform the RDT, administer ACT and recognize and refer complicated malaria cases	Target exceeded: 39 licensed private chemical sellers completed two-day training on malaria messages, use of RDTs, malaria case management, and use and handling of ACT drugs.	
	Target: 48 review meetings held (1 meeting x 12 sub-districts x 4 quarters) Actual: 36 meetings held	Conduct quarterly review meetings with Community Volunteers at the sub-district level	Review meetings took place in all 12 project sub-districts in Quarters 2, 3 and 4 (total of 36 meetings) to share experiences, discuss and solve challenges, motivate volunteers and discuss transition of project to GHS. Attendance in the meetings among volunteers averaged 98.5% in the three quarters. Community leaders and GHS staff also attended the meetings.	No review meetings took place in Quarter 1 because of a delay in the release of funds to ADDRO.

Project Objectives	Indicators (from Year 3 Work plan)	Key Activities	Status of Activities	Comments
	<p>Target: All Community Volunteers receive visit from project staff at least once a month</p> <p>Actual: District project officers conducted monthly monitoring visits in all project communities.</p>	<p>Undertake supportive supervision of Community Volunteers by ADDRO field officers and management staff</p>	<p>Target achieved: ADDRO district-level project officers conducted monthly monitoring visits to participating communities to oversee work of volunteers; observe household visits; and assist with mass LLIN registration, distribution and hanging (in Quarter 3). To begin transition to GHS, GHS staff joined in monitoring visits in communities where they work.</p> <p>ADDRO officials from headquarters also made 11-13 supervisory and monitoring visits per quarter.</p>	
<p>Objective 2: To improve LLIN usage by pregnant women and children under 5 years old by 20%, uptake of IPT in pregnant women by 15% and health care seeking behaviour of caregivers by 30% above the baseline usage in Garu Tempene and Bawku West districts in Upper East region in Year 3</p>	<p><i>Sub-objective 2.1: Undertake BCC/IEC campaigns at the household level and through community awareness campaigns and activities</i></p>			
	<p>Target: 10,000 posters and leaflets on malaria and malaria prevention reproduced and distributed in new and old communities</p> <p>Actual: 10,000 posters and leaflets reproduced and distributed</p>	<p>Reproduce and distribute BCC/IEC materials to Community Volunteers and to GHS facilities</p>	<p>Achieved: all 10,000 leaflets and posters were reproduced and distributed for use in the communities and in GHS facilities.</p>	
	<p>Target: Each household with registered beneficiaries in the project communities visited at least once a month</p> <p>Target: 56,438 (65% of registered beneficiaries)</p>	<p>Conduct malaria health education through house-to-house visits by Community Volunteers</p>	<p>Volunteers in all 280 project communities visit a cross section of households each month. Through these visits, a total of 50,663 individuals (90% of the target) received malaria education, including on the topic of LLIN usage and maintenance.</p>	

Project Objectives	Indicators (from Year 3 Work plan)	Key Activities	Status of Activities	Comments
	<p>people reached with BCC/IEC messages through house-to-house visits Actual: 50,663 people reached through house-to-house visits</p>			
	<p>Target: At least 100 community durbars organized in new and older communities Actual: 206 durbars held in Year 3, including close-out durbars</p>	<p>Conduct malaria health education through community durbars (group education events)</p>	<p>More than 200 of these group educational events took place in both the new and older communities in Year 3, attended by a total of 49,080 people. The events focused on the consistent and correct use of LLINs and early treatment seeking and adherence to ACT treatment regimens. These included 146 close-out durbars conducted during Quarter 4 (described under Sub-objective 1.1 above).</p>	
	<p>Target: 2 events held (one per district) during World Malaria Day Actual: 2 events held two weeks later</p>	<p>Conduct malaria education and awareness activities during World Malaria Day in each project district</p>	<p>Community durbars in both project districts were conducted by project staff in early May (two weeks after World Malaria Day). Speeches, dramas, discussions and demonstrations were used to educate people about malaria prevention and control strategies.</p>	<p>These events were not held on April 25 (World Malaria Day), due to scheduling conflicts</p>
	<p>Target: 48 radio programs aired Actual: 48 weekly programs aired</p>	<p>Broadcast radio program on community radio stations to promote community-based malaria prevention and control</p>	<p>Target met: Half-hour, interactive program aired once a week in Kusaal (predominant dialect) on two local radio stations. The programs included spots/jingles with malaria messages, short drama, interviews with GHS and MCP project staff, and call-in from</p>	

Project Objectives	Indicators (from Year 3 Work plan)	Key Activities	Status of Activities	Comments
			listeners. MCP staff paid for the air time, wrote the scripts for the dramas, and participated in responding to the call-in questions.	
Sub-objective 2.2: Monitor household usage of bednets (LLINs) and project activities				
	<p>Target: 32,865 LLINs followed to check for usage and condition (60% of nets distributed in Years 1, 2 and 3)</p> <p>Actual: 19,801 LLINs distributed in Years 1 and 2 (out of 26,000) + nets distributed in Year 3 monitored</p>	Community Volunteers monitor usage and condition of LLINs during house-to-house educational visits with registered beneficiaries	Volunteers monitored on a regular basis 19,801 LLINs (76%) of the 26,000 distributed by the project in Years 1 and 2. They also monitored the new nets distributed in April 2012 during the mass distribution campaign, jointly with GHS.	Net monitoring has been taken over by GHS, so the number of new nets distributed during the mass campaign in 2012 that were later monitored is not available.
	<p>Target: Net usage monitoring forms completed each month by each volunteer</p>	Community Volunteers record the households they visit, usage and condition of LLINs and educational messages given during household visits on the monitoring forms, which they submit them monthly to the project	All Community Volunteers submitted completed monitoring forms each month	
Objective 3: To distribute at least 43,000 LLINs to children under five and pregnant	<p>Target: At least 43,000 LLINs distributed and hung in project communities</p> <p>Actual: 99,838 LLINs</p>	Identification and registration of beneficiaries for the national mass LLIN distribution in the 280	Nearly 100,000 LLINs were distributed and hung during national mass net distribution campaigns in the 280 project communities (including the 80	

Project Objectives	Indicators (from Year 3 Work plan)	Key Activities	Status of Activities	Comments
women in 280 project communities in Upper East region.	distributed and hung in Year 3 in the project communities during a national net distribution campaign	communities, including the 80 new communities Distribution and hanging of bednets in people's homes by Community Volunteers and community leaders	Year 3 communities) in April 2012 in the aim of achieving the new goal of universal LLIN coverage. One hundred fifty-seven Community Volunteers took part in the campaign and ADDRO project staff were members of district steering committees for the campaigns.	

Objective 2: To improve LLIN usage by pregnant women and children under 5 years old by 20%, uptake of IPT₂ by 15%, and health care seeking behavior of caregivers by 30% in Garu-Tempene and Bawku West districts in Upper East region in Year 3

4. Successful implementation of a variety of community-based malaria-related behavioral change communications (BCC) and net monitoring activities

Community Volunteers continued to make regular visits to households during the year to reinforce messages about malaria prevent and control, including care and maintenance of their nets, and to monitor net usage and condition. During these home visits, a total of more than 50,600 individuals received malaria educational messages and nets were checked for usage and condition. In addition to visits by volunteers, community leaders in many communities made random visits to households to monitor net usage and condition on their own.

A total of 206 group education events called “durbars” were held on the topic of malaria prevention and control throughout the year in clusters of nearby communities, reaching all 280 MCP communities. The durbars, attended by a total of more than 49,000 community leaders, residents and volunteers; GHS staff; and school children (for an average of 238 people per event), included speeches by community leaders, dramas performed by school children, discussions, and demonstrations using visual aids. The majority (146) of these events were “close-out” durbars that took place in the 4th Quarter, as described below under #6.

The program also printed in the local language, Kusaai, and distributed a total of 10,000 leaflets and posters with malaria prevention and control messages during community meetings, durbars, and household visits, as well as to health facilities in the two project districts.

Finally, a half-hour discussion program on malaria was broadcast on a weekly basis throughout the year on two community radio stations in Kusaal, with the assistance and participation of MCP staff. The radio programs usually consist of a pre-recorded drama concerning one of the main malaria prevention and control strategies (IPT, LLIN use, case management with ACTs), an interview with GHS and/or MCP staff about the drama, and a phone-in segment. Two-minute spots or jingles with malaria prevention and treatment messages are also played during the program. The programs during March also informed listeners of the upcoming mass LLIN distribution campaign. Listeners continued to show keen interest in the radio programs through the high volume of their phone-in calls.

The evaluation survey conducted in 2012 indicate that these educational activities were successful in achieving the behavioral change goals of the project, in terms of IPT usage among pregnant women and LLIN usage among children under five and pregnant women (see Section C of this report).

Objective 3: Distribute 43,000 LLINs to children under five and pregnant women in 280 project communities in Upper East Region

5. Mass distribution and hanging of nearly 100,000 LLINs

This objective was revised to be aligned with the new goal of WHO’s Rollback Malaria Initiative of universal coverage with LLINs of all people in malaria-endemic areas – regardless of their age or pregnancy status. As part of a national campaign of mass LLIN distribution that

occurred in April 2012, 99,838 nets were distributed and hung in households in the 280 MCP communities. The nets were distributed to household members in the Year 1 and 2 communities who had not been targeted for the LLINs in prior years (i.e., persons older than five years of age and non-pregnant women), as well as to all household members in the 80 new Year 3 communities. The number of nets distributed was based on a registration of households that was conducted in Quarter 1 by ADDRO and GHS staff. A total of 157 Community Volunteers took part in going house-to-house to distribute and hang nets, and ADDRO staff took part in the monitoring teams, providing critical support in cleaning and verification of registration and net distribution data, and in transporting the nets to the communities. MCP staff members also sat on the district steering committees established for the campaign to share their experience in community-based LLIN distribution, since this was the first time such an approach was being employed during a national net distribution campaign.

Other critical (cross-cutting) activities

6. Efforts to ensure the continuation of program activities and malaria prevention and control practices at the community level after the USAID-supported project ends

The project held a meeting in January 2012 with 62 stakeholders from the two districts, including District Health Directors, malaria focal points, public health nurses, community health officers, and District Assembly members, to review progress, discuss the Year 3 workplan and discuss the project close-out and transition of activities to the GHS. To formalize the DHMT's commitment to continuing project activities, it was planned that Memoranda of Understanding between ADDRO and the DHMT for both districts would be developed and signed during this final project year. The MOUs would stipulate the roles and responsibilities of the DHMTs with respect to community-based net monitoring, educational activities, and other project activities. MOUs have not yet been prepared; however, it is planned that they will be developed and signed during a stakeholder meeting scheduled for the end of November 2012, during which the results of the final project evaluation survey will be disseminated to stakeholders.

The MCP project also held a total of 146 final, "close-out" durbars for all project communities in the final quarter of the year, attended by more than 26,000 people. The purpose of these events was to officially inform community members about the end of the MCP project and its transition to the GHS, as well as to provide additional malaria education to the communities through dramas, demonstrations and discussion. The focus was on the consistent and correct use of LLINs and early treatment with ACT and adherence to ACT regimens.

Other efforts to facilitate the transition to GHS that took place during the year, as mentioned above, were:

- The training of 36 DHMT members, including district malaria focal points, in malaria case management, malaria in pregnancy and monitoring and evaluation;
- The participation of GHS staff in the quarterly review meetings with Community Volunteers (an average of 32 people per quarter);
- Joint ADDRO/GHS project monitoring visits in the communities with GHS health facilities, to assist with the hand-off of house-to-house net monitoring and malaria education to the government.

B. Methodology for the project's final evaluation

In accordance with the evaluation plan in the Cooperative Agreement, a final project evaluation was conducted by a government-affiliated research institute (Navrongo Health Research Centre) in 30 randomly-selected communities among the 280 communities that participated in the Malaria Communities Program (18 in Garu-Tempene district and 12 in Bawku West district). To determine the impact of the program on community knowledge and practices regarding malaria prevention and control, as measured against target indicators, 672 women 15-49 years of age in randomly-selected households were interviewed, using a structured questionnaire. The surveys also included direct observation of nets. Among this sample of women, a subgroup of 68 women who had delivered a child in the last two years or were currently pregnant were asked about their knowledge and practice regarding antenatal care.

A total of 56 interviews with health managers and community leaders were also conducted in the 30 communities, using a semi-structured questionnaire, to determine the presence of the trained Community Volunteers and assess their activities.

C. Main accomplishments of the MCP project

The most important accomplishments of this three-year project and the factors that contributed to these achievements follow below. Some key data on the project and its scope are shown in Table 2 below. See also Table 3 for details of activities and achievements against objectives and target indicators.

1. Success in implementing and sustaining project activities in all 280 targeted communities in the districts of Bawku and Garu-Tempene in Upper East Region

The MCP has had a 100% success rate in getting the targeted number of communities to implement the project and to continue community-based project activities until today. No community approached by the project refused to participate. This achievement is especially important since all targeted communities are in remote areas where access to health services is limited, thus making community-based BCC activities and LLIN distribution all the more important to ensure the population's adoption of bednet use and other malaria prevention and control strategies.

A key factor in the communities' strong participation rate has been the project's strategy of engaging and collaborating with community leaders – from church leaders to community chiefs, women's leaders, District Assembly members and other stakeholders – in all stages and activities of the project (see Box 1). Community leaders have had a major role in selecting the volunteers to serve their communities, and once they are trained in the key malaria interventions and in project monitoring, they have played a key role in supporting and monitoring the volunteers and their activities on a daily basis and in educating community members about bednet use and other malaria prevention and control practices. In many communities, these leaders have helped distribute nets and make random household checks to ensure that they are being used and cared for properly.

Table 2. Basic data on the MCP project in Upper East Region of Ghana

Project year	No. of communities that joined project*	No. of Community Volunteers who completed training	Percent of volunteers still actively working for the project	No. of LLINs distributed
Year 1	96	284	—	10,000
Year 2	104	280	100%**	16,000
Year 3	80	166	100%**	98,838
Total	280	730		124,838

* The number of participating communities in Years 1 and 2 was reported in the annual reports as 140 each year. However, the project had subdivided larger communities into several smaller units and counted these smaller units as separate communities. It was decided at the end of Year 2 to use the officially recognized division of communities, which reduced the total number of communities in Year 1 from 140 to 96 and in Year 2 from 140 to 104. Another 80 communities were added to the project in Year 2 to meet the target of 280 communities.

** A few volunteers moved away, went back to school or died during the project period. However, they were replaced with new volunteers and thus 730 remain active in their communities.

Box 1. How community leaders participate in MCP activities in their communities

- Participate in initial consultative meetings with ADDRO project staff to agree to their communities participation in the project
- Propose and recruit individuals from their communities to serve as Community Volunteers
- Receive formally training by project staff in malaria prevention and control strategies and in project monitoring
- Impart messages about malaria prevention and control during their public addresses (e.g., priests during church services, women leaders during meetings of women’s groups)
- Help to organize and facilitate durbars on malaria
- Participate in the distribution of LLINs
- Conduct random household visits to monitor LLIN usage and the work of the Community Volunteers (some)
- Attend quarterly review meetings of Community Volunteers (some)

Table 3. Activities and accomplishments of the Ghana MCP project against objectives and indicators

Project Objectives	Indicators (from annual work plans)	Key Activities	Status of Activities	Comments
<p>Objective 1: Increase community capacity to undertake BCC/IEC in support of key national strategies, specifically, bednet (LLIN) distribution, two doses of IPT in pregnant women, and treatment with Artemisinin-based Combination Therapy (ACT).</p>	<p>Sub-objective 1.1: Undertake consultative meetings with district, sub-district and community leaders to ensure government and community support of program activities and a smooth transition of the project to Ghana Health Services (GHS)</p>			
	<p>Target: 280 communities in the two target districts actively participating in project activities Actual: 280 communities joined the project over three years</p> <p>Target: Initial consultative meetings with community leaders in 280 selected communities Actual: Initial meetings with community leaders took place in all 280 communities</p>	<p>Conduct initial consultative meetings with district officials to orientate them on the project and select new communities each year</p> <p>Hold initial meetings with community leaders in each newly selected community to introduce project, plan activities and discuss how to select Community Volunteers</p>	<p>Targets achieved. A series of orientation meetings were held in Year 1 for regional and district-level health management teams, District Assembly members, GHS staff and other stakeholders to explain the project, discuss potential issues and problems, and obtain their suggestions.</p> <p>The project was implemented in 280 hard-to-reach communities over its three years. Each year, new communities were selected to join the MCP, in consultation with DHMTs and planning officials. Project staff then visited each newly-selected community at the beginning of the new project year to hold an initial consultative meeting with community leaders. In Years 2 and 3, a total of 2,018 chiefs, women leaders, religious leaders, and other influential community members participated in these initial meetings in 184 communities (average of 11 per community).</p>	
	<p>Target: 760 Community Volunteers selected by the 280 project communities</p>	<p>Select Community Volunteers in new communities through</p>	<p>Two or three volunteers were selected in all 280 communities by community leaders and presented during</p>	

Project Objectives	Indicators (from annual work plans)	Key Activities	Status of Activities	Comments
	Actual: 730 Community Volunteers selected	consultative community meetings	community-wide meetings. A total of 730 volunteers (average of 2.7 per community) were selected and trained.	
	Community meetings held to identify bottlenecks to usage of LLINs, IPTp and prompt treatment with ACTs	Conduct community-level meetings during which focus group discussions are held to discuss barriers to the use of malaria prevention and control interventions and how to overcome them	A total of 108 meetings were held during the first two years of the project to identify barriers through focus group discussions. Nearly 9,500 men, women, and children participated in the focus group discussions, which were conducted separately for each of these groups. The identified barriers to malaria-related behavioural change led to changes in health facility practices and to modifications in educational messages disseminated by the project.	
	<p>Target: Annual review meetings held with regional, district and sub-district Health Management Teams and District Assemblies</p> <p>Target: Memoranda of Understanding (MOUs) between ADDRO and DHMTs in both districts signed to specify strategies and plans for project activities following close-out</p>	<p>Conduct annual project review meetings with DHMTs, GHS staff, District Assembly members and other stakeholders</p> <p>Include in the review meetings in Year 3 a discussion of the sustainability of project activities following close-out of the USAID project and the roles and responsibilities of each stakeholder (to be specified in MOUs).</p>	<p>Review meetings were held in Years 2 and 3 in each of the two districts, attended by 62-63 DHMTs and District Assembly members each year. The meetings reviewed project activities, progress and issues, and made adjustments to the year's workplans. The Year 3 meetings also included a discussion of plans for continuation of project activities following close-out.</p> <p>MOUs between ADDRO and the two DHMTs have not yet been signed, but this is planned for November 2012.</p>	

Project Objectives	Indicators (from annual work plans)	Key Activities	Status of Activities	Comments
	<p>Target: Clustered community “close-out” meetings held to cover all 280 new community</p> <p>Actual: 146 close-out durbars held, covering all 280 communities</p>	<p>Hold close-out meetings with members and leaders of the beneficiary communities to discuss the transition of project activities to the GHS and to provide additional education about malaria.</p>	<p>146 close-out “durbars” took place in the last quarter of Year 3 to mark the end of the project and the transition of activities to GHS. Dramas, discussions and demonstrations were given as well, with a focus on correct LLIN usage and the importance of prompt treatment with ACT and adherence to the drugs’ regimens. A total of 26,145 participants attended these events.</p>	
<p><i>Sub-objective 1.2: Conduct cascade trainings for district, sub-district and community leaders and for community volunteers</i></p>				
	<p>Target: 4 training manuals on malaria adopted or developed for different levels/types of trainees</p> <p>Actual: 4 training manuals developed or adapted</p>	<p>Review, and adapt (or develop) training manuals for volunteers and for trainers</p>	<p>Achieved. The project developed a PLA manual for trainers and adapted a NfL training manual for Community Volunteers. Two NMCP training manuals were adapted: one on case management of malaria in health facilities and one for training chemical sellers.</p>	
	<p>Target: 109 district GHS staff, including malaria focal points and 28 ADDRO staff trained (total of 137 individuals)</p> <p>Actual: 136 GHS staff and 57 ADDRO staff trained</p>	<p>Conduct orientation training for district and sub-district level authorities and GHS malaria focal points on the project, NFL/ADDRO’s role within the NMCP, and participatory health education methods.</p> <p>Train GHS staff in the two project districts, along with ADDRO staff, on National</p>	<p>Target exceeded: The project conducted the following intensive training courses, attended in all by 193 individuals from the GHS and ADDRO: 1) orientation training on malaria and the MCP project training, attended by 121 persons; 2) a training of trainers in Participatory Learning and Action in malaria prevention and control in Year 1 (for 16 trainers); 3) monitoring and evaluation, including data collection and management (in Years 1, 2 and 3);</p>	

Project Objectives	Indicators (from annual work plans)	Key Activities	Status of Activities	Comments
		Malaria Control strategies, malaria case management, participatory learning approaches, and monitoring and evaluation	social and behavioural change communications (SBCC) (in Year 2); and 4) malaria case management (for 44 GHS staff in Year 3). Each training course was three to six days long.	
	<p>Target: 760 Community Volunteers complete initial two-day training and are equipped with a bicycle and “motivational kits” and incentive packages</p> <p>Actual: 730 Community Volunteers trained and equipped</p>	<p>Train Community Volunteers in project communities to carry out educational activities; register households; and distribute, hang and monitor usage and condition of LLINs in their communities</p> <p>Provide bicycle, repair kit and motivational kit to each trained volunteer.</p>	All 730 Community Volunteers selected over the life of the project completed the two-day initial training at the sub-district level on key malaria prevention and control interventions and the role and tasks of volunteers. All trainees were provided with a bicycle, a bag with IEC materials, a T-shirt with the program name and educational messages, and bicycle parts and repair kit. The volunteers were each given 3 bars of soap in the last quarter of the project as an incentive and in recognition of their work.	
	<p>Target: 564 volunteers re-trained for one day</p> <p>Actual: 544 volunteers retrained</p>	Conduct refresher training for Community Volunteers from the Year 1 and 2 communities	Achieved: 96% of Community Volunteers from Year 1 and 2 communities received one-day refresher training in 12 sub-district level trainings	The high attendance rate attests to the high retention rate and high motivational level of the Community Volunteers in the project areas.
	<p>Target: 740 community leaders and radio broadcasters trained in the 280 project communities in malaria prevention and control interventions</p> <p>Actual: 873 community leaders trained</p>	Conduct one-day training using PLA methods for community leaders in the new targeted communities each year on malaria interventions (use of LLINs, IPT, case management)	Target exceeded: A total of 873 community leaders from the 280 project communities completed a one-day training workshop during the life of the project to enable them to incorporate malaria-related messages in their public speeches and leadership activities, and	Radio broadcasters were invited to the trainings in Year 1, but failed to attend. They did participate, however, in community durbars held during

Project Objectives	Indicators (from annual work plans)	Key Activities	Status of Activities	Comments
		and their role as change agents in the community	to participate in monitoring of project activities, including house-to-house net monitoring visits. The community leaders were given IEC materials on malaria to use during their talks and to distribute to community members.	World Malaria Day events.
	Target: 50-60 chemical sellers trained Actual: 67 trained	Conduct two-day training of private chemical sellers to improve their ability to correctly administer ACTs and recognize and refer complicated malaria cases	Target exceeded: 28 licensed private chemical sellers in Year 2 and 39 in Year 3 completed a two-day training in the use of RDTs, malaria case management and use and handling of ACT drugs, using the national training manual for chemical sellers.	
<i>Sub-objective 1.3: Conduct supportive supervision of Community Volunteers through quarterly review meetings and supervisory field visits</i>				
	Target: Meetings each quarter with Community Volunteers in all 12 sub-districts Actual: Sub-district meetings held every quarter except one, beginning the 3 rd quarter of Year 1.	Conduct quarterly review meetings with Community Volunteers at the sub-district level	Review meetings took place in all 12 project sub-districts each quarter, beginning the 3 rd quarter of Year 1, with the exception of Quarter 1 in Year 3, for a total of 108 meetings. The purpose of the meetings was to share experiences, discuss and solve challenges, motivate volunteers, and in Year 3 to discuss transition of project to GHS. Community leaders and GHS staff also attended meetings. The participation rate among volunteers averaged 98% in Year 3.	Quarterly review meetings did not take place in Quarter 1 of Year 3 due to a delay in the release of project funds.
	Target: Each Community Volunteer visited by project staff at least once a month during sub-district supervisory visits	Undertake supportive supervision of Community Volunteers by ADDRO field officers and management staff	Target achieved: ADDRO district-level project officers conducted monthly monitoring visits to participating communities to collect monitoring data; identify technical needs and solve	

Project Objectives	Indicators (from annual work plans)	Key Activities	Status of Activities	Comments
			problems; and observe household visits. To begin transition to GHS, GHS staff joined in monitoring visits in Year 3 in communities where they work.	
Objective 2: To increase to 85% the percent of pregnant women and children under 5 years of age sleeping under a LLIN, the percent of pregnant receiving at least two doses of IPT, and the percent of children receiving ACT within 24 hours of onset of malaria symptoms in the project communities.	Sub-objective 2.1: Undertake BCC/IEC campaigns at the household level and through community awareness campaigns and activities			
	Target: 21,400 posters and brochures on malaria and malaria prevention distributed in communities Actual: 21,400 copies printed and distributed	Reproduce and distribute BCC/IEC materials in all project communities and to GSH facilities in the area	Achieved: all 21,400 folded brochures and posters were distributed in the 280 communities and to GHS facilities. The posters were hung in strategic locations in the communities to ensure their visibility.	
	Target: Each household with registered beneficiaries in the project communities visited regularly Actual: 18,550 households continued to be visited by the end of Year 3 Target: events on World Malaria Day held in each in project districts Actual: Events held all three years Target: 98,117 people reached with BCC/IEC activities Actual: 163,425 people reached through durbars and home visits	Conduct malaria health education through house-to-house visits by Community Volunteers Conduct malaria health education through community durbars and other community gatherings (e.g., church, school meetings) Conduct malaria education and awareness activities during World Malaria Day in each project district	Community Volunteers made regularly visits to beneficiary households throughout the three years of the project, during which they received malaria health education, and their nets were checked for usage and condition. In total, the project counted 85,289 people as having received educational messages through household visits during the three project years. People were also educated about malaria prevention and control interventions through a total of 375 “durbars” that took place in all 280 project communities over the three years of the project, attended by more than 78,000 people. The events included dramas, discussions and demonstrations. Three large district-	

Project Objectives	Indicators (from annual work plans)	Key Activities	Status of Activities	Comments
			<p>level durbars took place on or around World Malaria Day in Years 1 and 3.</p> <p>Through the household visits and durbars alone, the project counted 163,425 people who received malaria education in the 280 project communities (166% of target).</p>	
	<p>Target: Radio spots aired 380 times (starting in Year 1) and 48 half-hour discussion programs on malaria (during Year 3) on two local radio stations</p> <p>Actual: 381 radio spots aired during the three years and 48 half-hour discussion shows aired in Year 3</p>	<p>Develop and finance messages about malaria prevention and control for broadcasting on two community radio stations at least once a day</p> <p>Broadcast ½ hour discussion program each week on malaria on two community radio stations during Year 3</p>	<p>Target met: Jingles and radio spots in English and Kusaal were developed and financed with project assistance and broadcast once or twice a day, starting in Year 1 on two local radio stations covering both project districts. In Year 3, MCP developed weekly half-hour, interactive discussion programs on malaria, which include short dramas, interviews with GHS and project staff, and call-in from listeners.</p>	
Sub-objective 2.2: Monitor household usage of bednets (LLINs) and project activities				
	<p>Target: 60% of LLINs distributed by MCP and national LLIN campaigns are monitored for usage and condition each year through household visits by Community Volunteers</p> <p>Actual: 76% of nets distributed in Years 1 and 2 (19,801 out of 26,000), plus new nets distributed in Year 3 were monitored regularly.</p>	<p>Community volunteers monitor usage and condition of LLINs during educational visits to households with registered beneficiaries</p>	<p>By the end of Year 3, three-quarters of the LLINs distributed by the project in Years 1 and 2 were checked regularly for usage and condition by Community Volunteers. Community leaders in most communities also made random visits to households to check net distribution and usage. Nets distributed in April 2012 (Year 3) during a national mass campaign were also monitored, with GHS taking the lead.</p>	<p>Data on the number of new LLINs distributed in Year 3 that were monitored are not available, since this activity was taken over by GHS.</p>

Project Objectives	Indicators (from annual work plans)	Key Activities	Status of Activities	Comments
	<p>Target: Net usage monitoring sheets completed each month by each volunteer</p>	<p>Community volunteers collect data for each household visited on the number and condition of nets per household, number of nets distributed or replaced, and number of people reached with IEC messages.</p>	<p>Target met: All Community Volunteers in Year 3 handed in monitoring sheets on a monthly basis.</p>	
Outcome indicators				
	<p>Target: 85% of children under five years old slept under a LLIN the previous night. Baseline: 69% End of project value: 93%</p> <p>Target: 85% of pregnant women slept under a LLIN the previous night. Baseline: 28% End of project value: 95%</p> <p>Target: 85% of women received IPT₂ during their last pregnancy. Baseline: 62% End of project value: 95%</p> <p>Target: 85% of children under five years with fever in last two weeks received an anti-malarial according to national policy (ACT) within 24 hours of onset of</p>	<p>End of project evaluation using 30-cluster Knowledge, Practice and Coverage (KPC) survey methodology was conducted by independent group in July and August 2012 to collect this information.</p>	<p>According to the final project evaluation survey, the percent of the population adopting the malaria prevention and control interventions promoted by the MCP project well exceeded the target of 85%, with the exception of children receiving ACT within 24 hours of symptoms. However, this is a reflection of a change in government policy and practice. Febrile children are now tested for malaria with a rapid diagnostic test (RDT) and only those who test positive are administered ACT. This has thus lowered the percent of febrile children seeking treatment who are provided with ACT.</p>	

Project Objectives	Indicators (from annual work plans)	Key Activities	Status of Activities	Comments
	fever. Baseline: 44% End of project value: 39%			
Objective 3: To distribute 68,862 LLINs to children under five and pregnant women in 280 project communities	Target: At least 68,862 LLINs distributed and hung in project communities over the 3 years of the project Actual: 124,838 LLINs distributed and hung Target: 85% of households with at least one LLIN Baseline: 20% End of project value: 95% Target: 85% of households with a pregnant woman or children under 5 with at least one LLIN. End of project value: 94%	Identify and register beneficiaries for LLIN distribution in the new project communities each year Community Volunteers and community leaders distribute and hang LLINs in people's homes, including during mass distribution campaigns conducted by the national program	Achieved 180% of target: Nearly 125,000 LLINs were distributed and hung with assistance from Community Volunteers during the three years of the project, leading to universal LLIN coverage in the project communities. The majority of the nets (99,838) were distributed in Year 3 as part of a national mass net distribution campaign to achieve the new goal of universal coverage of all persons (all ages), consistent with new WHO Rollback Malaria goals. One hundred fifty-seven Community Volunteers took part in this campaign.	

2. Successful recruitment, training, monitoring and retention of Community Volunteers as the backbone of community-based promotion of malaria prevention and control

A total of 730 Community Volunteers were selected in the 280 communities to serve as malaria control agents. This is two or three volunteers in each community or an average of 2.7 per community³. The volunteers were selected by community leaders using set criteria established by the project (shown in Annex 2). A number of volunteers were already respected members or leaders in their communities, such as teachers and District Assembly members. Several others had already been serving as volunteers for the Ghana Health Service. Because of the requirement that the volunteers be able to read and write, and the low literacy rates among women in this remote part of Ghana, 17% of the selected volunteers are women, while 83% are men.

Following their training as community-based malaria control agents (described in #4 below), the volunteers were provided with IEC materials, a booklet with net usage monitoring forms (Annex 1), a toolkit for hanging the nets (hammers, nails, rope, etc.), a “motivational kit” consisting of a T-shirt and bag with the project name and malaria messages, and a bicycle and repair kit. The volunteers were then expected to visit each household that they were assigned to at least once a month to monitor the usage and condition of LLINs in the household, provide malaria education and messages to household members, and register household members for net distribution. They were also expected to take part in group educational activities about malaria and in distributing and hanging nets (see Box 2).

Box 2. Tasks and responsibilities of the Community Volunteers in the MCP

- Provide malaria education to community members during household visits (on the topics of the causes and symptoms of malaria, malaria prevention methods (including IPT), malaria treatment, and LLIN usage and maintenance)
- Compile information on targeted beneficiaries for LLINs into a registration book to pre-register those who qualify for a net
- Distribute LLINs at the household level and assist family members in hanging them properly
- Monitor usage and condition of nets during regular household visits and determine the number of nets that need to be replaced
- Complete the net usage monitoring sheets each month to record the number of nets per household, their usage and condition, and numbers of people reached with various educational messages to provide to project staff
- Assist in organizing, promoting, and taking part in community “durbars” (group events) to educate the community about malaria prevention and control interventions
- Impart malaria-related messages at other community meetings and gatherings, such as school and Parent Teacher Association (PTA) meetings, church meetings, and community water and sanitation management meetings

³ Larger communities have three volunteers to ensure sufficient coverage of households by the volunteers.

ADDRO project staff normally visit each Community Volunteer at least once a month to provide supportive supervision, monitor their work using a checklist, and provide additional training and advice, as required. When roads were impassable or travel was made difficult due to ethnic strife (in Bawku Municipality), supervisors would talk to the volunteers in affected communities by mobile phone. In addition, project staff conducted supervisory visits during the registration of households during the first two years of the program, as well as conducted household monitoring visits themselves to check on net usage. The project also organized quarterly review meetings at the sub-district level, starting the third quarter of Year 1, attended by the volunteers, as well as several community leaders and GHS staff members. These meetings have provided an opportunity for volunteers to share their experiences, discuss operational challenges and issues, learn from each other, and agree to proposed solutions. Participation of volunteers at these meetings is generally high – the attendance rate at the meetings in Quarters 2 and 3 of the last project year, for example, was 98%.

As of late September 2012, 730 volunteers remain active in their communities as malaria control agents, visiting households on a regular basis and completed household monitoring forms. While a number of original volunteers left their communities or died, others were recruited to take their place. Amongst the 564 volunteers recruited in the first two years of the project, 544 (98%) attended a refresher training in Year 3 – another indication of the extraordinary retention rate of these volunteers.

MCP staff members attribute the successful recruitment and high retention rate of the volunteers to the quality of the volunteers chosen, and the strong involvement of many community leaders in the program, giving prestige to the job of the volunteers. As a result, the volunteers tend to take their work seriously, despite the lack of any payment. The strong supervision and monitoring structure put in place, as described above, also is likely a key factor in keeping the volunteers active in the program.

3. Achieved universal bednet coverage in the project communities through the community-based distribution of nearly 125,000 LLINs

During the first two years of the program, around 26,000 long-lasting insecticide treated nets were distributed and hung in households for use by pregnant women and children under five years of age. This was preceded by an exercise in each community to identify those qualifying for a net through a pre-registration process. Due to a shortage of nets, 20% of targeted beneficiaries ($\approx 2,500$) were not provided with nets during Year 1. However, by Year 2, 95% of pregnant women and children in all participating communities – including those missed in Year 1 – were provided with an LLIN.

In the final project year, 99,838 nets were distributed and hung in the project communities during a national mass distribution campaign held in April 2012, with the help of more than 150 MCP Community Volunteers. This campaign targeted all persons in the community, as opposed to just pregnant women and children under five, in order to achieve the NMCP's new goal of universal coverage of the population with LLINs.

Thus in total, 124,838 LLINs were distributed and hung in households in the two districts over the three-year life of the project. Universal coverage has been defined as each household having at least two nets. Based on the estimated population in the two project districts of

229,304, and an average of four persons per household⁴, there are an estimated 57,326 households in the two project districts. Universal coverage would therefore require that at least 114,652 nets be distributed to new beneficiaries (two per household). Assuming that most of the 10,000 nets distributed in Year 1 were worn and thus replaced during the 2012 mass campaign, we can conclude that the distribution of nearly 125,000 nets has resulted in universal LLIN coverage in the two project districts.

4. Trained a wide range of community actors to ensure that project activities were successfully implemented and that gains in malaria prevention and control practices are sustained over time

Training was provided to a broad range of people in the project communities – well beyond the Community Volunteers (Table 4). Those trained included religious leaders, chiefs and other community leaders, who can serve as key educators in their communities to enable a wide reach of malaria messages. They also included providers of health services (e.g., GHS clinical staff and private chemical sellers) to ensure that malaria interventions, such as IPT, ACT and case management are available and delivered correctly. This comprehensive approach towards training resulted in the population hearing accurate messages repeatedly about how to prevent the disease and what to do if a malaria case is suspected, and enabled all those dispensing messages or health care to be on the same page and reinforce these messages. In all, more than 1,800 people were trained during the three years of the project.

The project developed two malaria training manuals: a manual in Participatory Learning and Action (PLA) for malaria education for the training of trainers, and a manual for community volunteers, adapted from one developed by NetsforLife®. In addition, MCP adapted two training manuals used by the NMCP: one for training of chemical sellers and one in malaria case management.

Cascade training began in Year 1 with a five-day training of trainers (TOT) course for 16 ADDRO and GHS staff to serve as trainers for the Community Volunteers, community leaders, and others. The TOT provided training in communications and PLA methods, as well as in different malaria prevention and control interventions. These new trainers then trained the Community Volunteers in the new communities each year in two-day workshops held at the sub-district level that included lectures; group discussions; brainstorming sessions; practical sessions in registering beneficiaries, hanging and monitoring nets; question and answer periods; and role playing. Volunteers from the communities that joined the project in Years 1 and 2 also received a one-day refresher training in Year 3. In addition, a total of 873 community leaders in the 280 communities – an average of three per community – participated in one-day workshops at the sub-district level so they could become informed educators and promoters of LLIN usage, IPT for pregnant women and other malaria interventions, as well as local monitors of project activities.

Among providers, annual training courses lasting three to six days were given to a total of 136 district-level GHS staff members to enable them to provide malaria prevention services and appropriate case management and to support and continue project activities. Areas covered by the trainings included monitoring and evaluation, social and behavioral change communication methods, malaria case management, and malaria during pregnancy. In addition, a total of 67 licensed private chemical sellers – who are important sources of medicine in many communities, especially those without fixed health facilities – attended two-day workshops to

⁴ This information comes from the national registration that preceded the 2012 net distribution.

improve their ability to diagnose malaria (including how to use RDTs), to provide ACT for patients, as appropriate, and to recognize and refer complicated malaria cases.

Table 4. Persons trained by the MCP during the life of the project

People trained	Total No. Trained	Skills acquired	Length of training	Timing and frequency of training
Community Volunteers	730	Educating the public about malaria prevention and control interventions; strengthened interpersonal communications; correct hanging and care of LLINs; monitoring and reporting of net usage and condition;	2 days for initial training 1 day for refresher training	Initial training plus refresher training (for Year 1 and 2 volunteers)
Community leaders	873	Educating community members about malaria prevention and control interventions; strengthened interpersonal communications and monitoring project activities (e.g., net usage)	1 day	Initial training when project started in each community
District GHS staff	136	How to train volunteers and others using Participatory Learning and Action methods; monitoring, evaluation and data collection and reporting; BCC regarding malaria; malaria case management; and malaria during pregnancy	3-6 days each	Annual training course
Licensed private chemical sellers	67	Recognizing malaria signs and symptoms, use of RDTs, recognizing and referring complicated cases, and correctly administering, storing and handling ACTs.	2 days	2 trainings occurred (in Years 1 and 3)
Total	1,806*			
* This total doesn't include 57 ADDRO staff members who also received training.				

5. Achieved a broad reach of educational messages about malaria prevention and control to the public through multiple channels and interactive learning methods

As confirmed by the final project evaluation, the majority of the population in these communities has heard about the importance of using LLINs, the signs of malaria and importance of seeking prompt treatment at health facilities, especially for young children and pregnant women, through a wide range of culturally-appropriate communication methods and media. These included face-to-face discussions by Community Volunteers during home visits; group educational events using the tradition of community “durbars”; talks by community leaders, such as priests and District Assembly members during their regular public addresses; and radio spots and interactive discussion programs broadcast regularly on two community radio stations.

Over the life of the project, a total of 375 durbars, attended by over 78,000 people, were held in the 12 project sub-districts, covering all 280 communities (Table 5). This is an estimated 34% of the entire population in the two project districts. To reinforce the messages and maintain the interest of the audience, the durbars employed PLA methods, such as dramas enacted by

Community Volunteers and school children, demonstrations (e.g., on how to properly hand and use a bednet), question and answer sessions, and discussions. Similarly, the half-hour weekly radio shows that began in Year 3 on two community radio stations include short dramas, discussions with GHS and ADDRO project staff about issues raised during the dramas, and a call-in segment where listeners can ask questions directly to these experts. MCP financed these programs, planned them each week, wrote the drama scripts, and participated in the discussions and in responding to listeners' calls.

Table 5. Group malaria educational events (“durbars”) conducted by the MCP

Project year	No. communities participating	No. durbars	No. people attending
Year 1	96	85	11,642
Year 2	104	84	17,414
Year 3	80	206	49,080
Total	280	375	78,130

Through the house-to-house visits and durbars alone, an estimated 163,425 people – or 71% of the population in these communities – received education on malaria prevention and control strategies⁵.

6. Substantially increased the knowledge and usage of target malaria prevention and control interventions in the project communities – meeting or surpassing most of the targets set by the project

Results of the final evaluation survey indicate that the project has been successful in getting the vast majority of the population in the two districts to adopt good malaria prevention and control practices – exceeding the target of 85% uptake for most behaviors (Table 6). Usage of LLINs is now universal in these communities, with 95% of pregnant women using them – as compared to only 28% three years earlier during the baseline survey. Rates of LLIN usage were also 93% for children under five and 87% for all household members. The latter figure represents a nearly five-fold increase in net usage of the entire population.

In addition, nearly all women (95%) who had been pregnant in the prior two years of the final evaluation reported receiving at least two doses of IPT. This is up from less than two-thirds (62%) three years earlier. Ninety percent of caretakers can now cite at least two danger signs of malaria. While the results show that only 39% of children with fever were brought to a health facility and administered ACT within 24 hours, this is likely due to the change in national policy, in which febrile children are administered a rapid diagnostic test (RDT) for malaria and only those who test positive are treated with ACT.

The factors contributing to the dramatic increase in malaria prevention and control practices in the project communities include the intensity of the project’s BCC activities, including household visits; the distribution by Year 3 of sufficient nets to achieve universal

⁵ It should be noted that some people may have been counted both during household visits and durbars and thus double-counted.

coverage in the two project districts; and regular supervision and support of the volunteers by both project staff and community leaders. Project staff also credit the training provided to GHS clinicians and the review meetings with DHMTs for improvements in the provision of IPT and management case management. Another critical factor contributing to these results was the qualitative research to identify barriers to the uptake of malaria interventions and the dissemination of the research findings to affect changes in the provision of malaria interventions by GHS health facilities (see #8 below).

Table 6. Knowledge and practice of malaria interventions in the project communities: results of the final project evaluation survey

Indicator	Target	Results of baseline survey	Results of final project evaluation
Percent of households that have at least one LLINs	85%	20%	95%
Percent of the population of all ages who slept under a LLIN the previous night	70%	18%	87%
Percent of children under 5 years of age who slept under a LLIN the night before	85%	69%	93%
Percent of pregnant women who slept under a LLIN the night before	85%	28%	95%
Caregivers who recognize at least two danger signs of malaria	85%	NA	90%
Percent of children under five years with fever in the last two weeks who received an anti-malarial (ACT) according to national policy within 24 hours of the onset of symptoms	85%	44%	39%*
Percent of pregnant women who received at least two doses of IPT	85%	62%	95%
Percent of women who report family support for IPT	85%	91%	79%
* This reflects a change in national policy, in that only children who tested positive for malaria with the use of RDT are given ACT.			

7. Developed a strong collaborative relationship with the District Health Management Teams and other stakeholders to strengthen the provision of malaria care services and the continuity of program activities

The government health system and political leaders at the local level were actively involved in the MCP from the very beginning to ensure their cooperation in its implementation and the smooth transfer of the project’s community-based educational and net distribution and monitoring activities to the GHS. The project began with a series of “familiarization” meetings with regional and district Health Directorates of the GHS and with District Assembly members in the two project districts to introduce the project and seek their support and suggestions on implementation. These were followed by formal stakeholder orientation meetings in both districts, attending by a total of 74 DHMT staff members. District health directors, malaria focal points, and planning officers were also consulted yearly on the selection of communities to target for the program.

In addition, ADDRO held formal project review meetings with DHMTs and District Assembly members in each district in Years 2 and 3, attended each year by more than 60 district health directors, malaria focal points, public health nurses, community health officers,

and District Assembly representatives. These meetings were held to review the program's progress, discuss key challenges and issues revealed from surveys and focus group discussions, discuss solutions and make necessary adjustments to the project's work plan. The Year 3 meetings also focused on the project close-out and transfer of LLIN monitoring and other program activities to the GHS in order to maintain the gains achieved by the MCP in malaria prevention and treatment practices.

As described above, key government health staff at the district level also received training by the project to improve their skills in providing malaria prevention and control interventions, including in malaria case management, behavioral change communities, and monitoring and evaluation. In fact, six GHS district staff became trainers of the Community Volunteers after taking the training of trainers course in Year 1. To further ensure a smooth transition of program activities to the GHS and the continuity of community-based LLIN monitoring and malaria education, GHS staff took part in the quarterly review meetings with community volunteers, especially in Year 3, and joined ADDRO staff this past year in supervisory and monitoring visits to the volunteers. The plan is for all MCP Community Volunteers to become GHS volunteers and to be monitored regularly by GHS staff. Full implementation of this plan will require GHS funding, however, which is not yet certain.

8. Success in influencing government policy to adopt the practice of the household distribution and hanging of nets to ensure high usage

Research conducted by NfL in other areas of Ghana showed that despite the distribution of LLINs in past years in the project districts, the usage rates of these nets among pregnant women and children under five was quite low. The nets were normally given to pregnant women during antenatal care visits at fixed health facilities. In implementing the MCP, NetsforLife® employed the strategy that it has used throughout Africa of going house-to-house to distribute and actually hang the nets, instead of expecting people to do so on their own. This was the first time that this strategy had been used in Ghana. Advocacy by NfL and the sharp increase in net usage in other areas in Ghana where NfL has been operating, as well as in other African countries, convinced the government to adopt this strategy. It was employed for the first time nation-wide during the mass net distribution campaign that took place in April 2012.

9. Use of research evidence to modify health facilities' practices and educational messages

During the first two years of the project, nearly 9,500 men, women and children (aged 6-14) from more than 100 communities participated in focus group discussions to identify major "bottlenecks" to the expanded use of LLINs, uptake of IPT among pregnant women, and prompt use of ACT for children with symptoms of malaria. The findings were shared with DHMTs and other stakeholders at annual project review meetings and led to changes in health facility practices in several instances. For example, DHMTs stopped requesting pregnant women to bring soap and other items when they came for an antenatal care visit, as this was found to discourage some women from receiving antenatal care and thus IPT. As another example, once it was discovered in the focus group discussions that some clinics closed early, reducing the accessibility of health services, efforts were made to ensure that clinics in these communities remained open during regular service hours.

The project also developed or tweaked BCC messages to address the bottlenecks identified in the focus group discussions. For example, in response to the finding that some family members, especially fathers, were reluctant to send their sick children to the hospital,

messages geared specifically to fathers were developed to stress the importance of getting prompt treatment with ACT for children with malaria signs and symptoms.

D. Questions related to MCP objectives

1. New USAID partners or networks identified by the project

Organizations and networks participating in the MCP that had not previously worked on USAID-funded projects are:

- ADDRO, ERD/NfL's implementation partner in Ghana on the MCP;
- District assemblies, several of whose members contributed to the planning and review of progress of the program;
- The regional coordination council for the Upper East Region, which is the administrative head of the region and which oversees the work of the regional Health Management Team;
- The District Health Management Teams in Bawku West and Garu-Tempene districts;
- The Navrongo Health Research Center, which conducted the final project evaluation.

2. Evidence of an increase in local capacity to undertake community-based malaria prevention and treatment activities during the project period

The results of the final project evaluation, which show a substantial increase in the uptake of LLIN usage, IPT and ACTs, speak for themselves, since the bulk of the MCP activities are carried out by Community Volunteers, with the backing and assistance of community leaders. Another indication of increased local capacity is that community leaders, such as traditional chiefs, District Assembly members and others, in more than half of the project communities incorporated malaria education messages in their talks (e.g., sermons by priests and pastors) and did so regularly. Many of these leaders also conduct household visits periodically to check nets on their own, suggesting that net monitoring and pressure on the community to use them will continue now that the project has ended. These leaders, who were trained by the project and often took part in project planning and review activities, as well as in distributing nets, are strongly motivated by the fact that they want malaria – the #1 cause of deaths in children under five in these districts – to decline sharply in their communities during their tenure.

3. Evidence or indication that local ownership of malaria control increased for the long-term, in partnership with communities and the NMCP

One of the main strengths of this community-based program and key to the continued use of LLINs, IPT and ACT uptake as new community norms is the sense of ownership that communities have in this endeavor. One indication of local ownership is the fact that vast majority of Community Volunteers trained by the project continue to perform their duties (as of September 2012) and that those who have left their position or have died have been replaced.

Prior to the project, leaders and other community members in many of these isolated communities had limited knowledge about effective malaria interventions and had lots of misconceptions about the disease and its cause. Thus, another indication, as mentioned above, is that now many of these local leaders are actively involved in ensuring high net usage by visiting households on their own and hammering home malaria prevention messages during public addresses and community gatherings.

4. Extension of the reach of PMI/NMCP to a larger population, including children under five and pregnant women

As described above, the project estimated that it reached more than 163,000 people with education through household visits and community activities alone. This represents 71% of the approximately 229,304 people counted in the two project districts during the registration of households for the mass net distribution. While some people may have been double-counted (i.e., during the household visits and durbars), additional people not counted undoubtedly heard the malaria messages and discussion programs broadcast on the radio, as well as talks by community leaders not reported by the project. In addition, as mentioned above, nearly 125,000 LLINs were distributed by the project, benefiting at least this number of people directly (and likely more, since children and even mothers often sleep together under the same net).

We can also estimate the number of children under five and pregnant women who directly benefited from the project in terms of their usage of LLINs and (in the case of pregnant women) their having received IPT. Applying the results of the final project evaluation to the estimated number of pregnant women and children under five in the project communities over the three years of the project (Table 7), nearly 46,000 young children and pregnant women received these benefits.

Table 7. Estimated number of children under five and pregnant women reached by the MCP project

Target group	Estimated number in population over 3 years*	Indicator from final survey to measure reach	Survey results (% uptake)	Estimated number reached
Children under five	39,113	LLIN usage the night before	92.6%	36,219
Pregnant women	10,116	LLIN usage the night before and IPT ₂ uptake	94.6%	9,570
Total target beneficiaries	49,230			45,789

* The population in the two districts is estimated to be 229,304 from the registration of households conducted prior to the mass net distribution campaign in 2012. The project was implemented in 280 of the districts' 318 communities or 88%. Since we don't have the exact population in the 280 project communities, we multiplied the population in the two districts by 88%, for a total population of 201,787 in the MCP project communities.

E. Factors that impeded progress and actions taken

The main challenges that arose in the project and ways they were addressed are:

- **Ethnic conflict** in Bawku Municipality, especially toward the end of Year 1 and in Year 2. This resulted in a ban on motorbike use and curfews that restricted the travel of project staff to communities near Bawku Municipality, as well as the travel of the volunteers within their communities. This especially affected supervision and monitoring of the volunteers by project staff. To overcome this obstacle, project staff scheduled most activities in the affected areas in the morning to avoid curfews and traveled by commercial vehicle.
- **A shortage of LLINs.** During the first two years of the project, the limited supply of nets obtained from the NMCP (supplemented by some nets purchased by the project) resulted in 20% of beneficiaries registered in Year 1 not receiving a net until Year 2. This shortage was due to the fact that the NMCP earmarked its nets for national mass distribution campaigns in priority regions, and there wasn't a mass campaign in UER until the third year of the project. By the third year, however, the issue was resolved when the NMCP made sufficient nets available to the project communities as part of the national campaign in April 2012 that covered not only pregnant women and children under five, but all individuals. Through this campaign, nearly 100,000 nets were distributed in the 280 project communities, which coupled with the nearly 26,000 nets distributed by the MCP in prior years (for a total of 125,838 nets), and assuming that 10,000 nets distributed in Year 1 were replaced during the 2012 campaign, this means that 115,838 nets were given to new beneficiaries. This was enough to cover 100% of the estimated 57,326 households in the two project districts with two nets, which is defined as universal coverage.
- The **inaccessibility of some communities** during the peak of the rainy season due to flooding and poor roads, affecting the frequency of monitoring and supervision visits by project staff. Project officers would often speak to the volunteers and community leaders by mobile phone to ask about project activities and obtain monitoring data when travel was impossible. At other times, project officers were able to travel to the affected communities by motorbike or even by foot.
- **High illiteracy rate**, especially among females, in the project area, which limited the pool of qualified and motivated candidates to serve as Community Volunteers in some communities. To resolve this issue, in communities where it was difficult to recruit two literate volunteers, an illiterate volunteer was recruited and paired with a literate volunteer so they could work together. While this delayed completion of the household monitoring sheets, it did not affect the frequency of household visits or educational activities. Only a small minority of volunteers are illiterate.

F. Lessons learned during the life of the project

The principle lesson learned is that merely handing out LLINs to the public and informing them about who should use them and how to hang and care for them will not necessarily lead to their actual use. Net usage in the project communities was found to be only ≈69% for children under five and 28% for pregnant women before the project began, despite the past distribution of nets during antenatal care visits at health facilities. As NfL also had learned from its

experience in other parts of Ghana and in other African countries, having volunteers actually hang the nets in the households or help family members to hang them appears to significantly increase the likelihood of their being used on a regular basis. As evidence, the usage rate of LLINs increased for pregnant women over the life of the project by 240% (from 28% to 95%), and for people overall from 18% to 87%.

Another important lesson learned is the fact that the Participatory Learning and Action (PLA) methods used in training communities and volunteers and in educating the public led to participants sharing their stories and experiences and thus helped increase people's understanding of good practices in malaria prevention and treatment.

G. Technical assistance received by NFL and ADDRO

ERD provided technical assistance on a continual basis throughout the life of the project in a range of areas, including supportive supervision, monitoring and evaluation, financial management, report preparation, and the design and management of the final project evaluation. Other specific instances of technical assistance given to ADDRO are the following:

- ADDRO staff, along with GHS staff, underwent a five-day training of trainers workshop in March 2010 given by the Executive Director of Rescue Foundation of Ghana, which focused on malaria education using participatory learning and action (PLA) methods;
- The M&E Manager of ERD in Ghana and two other staff held a three-day workshop in Year 1 for ADDRO project staff in the area of M&E to strengthen their ability to prepare workplans with objectives and indicators; and to collect, manage and report performance data, using Excel software;
- The ERD Finance Manager provided training to project staff in financial management and reporting, and regularly monitoring project finances;
- ERD/Ghana staff trained ADDRO and GHS staff in Year 2 in the areas of M&E (including the use of EPIDATA software and data entry and SPSS for data analysis), and social behavioral change communications;
- An officer from the USAID-funded Maternal and Child Health Integrated Program (MCHIP) provided technical assistance and advice to ADDRO project staff in the areas of monitoring the work of the Community Volunteers, evaluating their training, and behavioral change communications during a five-day visit to the program in March 2011;
- Pharmacists from government hospitals in the project districts served as trainers for the workshops conducted in Years 2 and 3 of the project for chemical sellers in malaria case management using ACTs.

H. Specific Information requested from PMI

1. What other community activities were catalyzed by the program and how community work will continue

The project has led to closer relationships between the community and health providers – with Community Volunteers serving as a new, critical link – and among the communities

themselves. Before the MCP, it was quite rare to find chiefs from different communities meeting together to solve problems, such as the control of a disease. However, as part of the project, communities have joined together during durbars and community review meetings to discuss malaria interventions and how to increase their use. Community Volunteers have also developed their own networks and elected leaders amongst themselves. These networks of volunteers have developed income-generating projects in some instances. The leaders and volunteers have also been able to successfully lobby for development projects for their communities by banding together and applying the knowledge and skills they have acquired from the MCP trainings and review meetings.

Peer pressure within communities had a positive impact on behavioral change related to malaria and can be critical to ensuring that LLIN usage and other malaria control strategies continue. Once educated about malaria, community leaders, along with the volunteers, strived to have their communities record the lowest number of malaria cases – creating a competition of sorts among communities. This in turn led to pressure on families, especially husbands, to ensure that their children used the nets given to them and that their wives received antenatal care, since the entire community was on the lookout for families that do not “do the right thing”. It is hoped that controlling malaria will continue to be viewed as a priority by the community leaders and thus become institutionalized. If so, community leaders will continue to encourage and support volunteers to make home visits, conduct period durbars on malaria prevention, and – very importantly – continue to serve as a vital link between the GHS clinics and the community.

Another important impact of the project that improves the outlook for continue malaria control in the communities is the improved relationships between private chemical sellers and the GHS, as well as with the communities. The training of 67 chemical sellers using government trainers and the government training manual, has led to closer ties between them and government health officials. In addition, chemical sellers who were trained have reportedly motivated others to register with the government, which certifies them to stock and sell ACT drugs.

2. Information about the condition of LLINs at 18 months

Most of the nets are in good condition after one and a half years of routine monitoring. The nets that are permanently hung in the beneficiaries’ sleeping places are by and large in good condition. Those that have moved around a lot, for example, on farms during the cultivation and harvest season, or that are hung outside due to excessive heat, have fared less well. Some people, however, keep one net at home and one at their farms, thus avoiding the need to constantly move them.

3. How plastic bags are disposed of after net distribution

A team consisting of representatives from PMI, the Delivery project, and the NMCP studied options for the disposal of the plastic wrapping for the LLINs, including incineration and recycling. The Cyclus Recycle Plant, located near Elmina in the Central region, assessed that they were able to recycle the empty bags. Following the mass net distribution campaign in April 2012, the bags were collected by the project officers and picked up by the NMCP for delivery to Cyclus, where they are recycled into pavement blocks.

I. Collaboration with the PMI team and its partners

- The project collaborated with PMI/Ghana to acquire 16,000 nets from the NMCP in Year 2;
- There was close collaboration with the NMCP in a number of areas, including the mass LLIN distribution campaign in Year 3, the annual celebration of World Malaria Day, and the adaptation of educational and training materials from the NMCP. For example, the NMCP gave the project more than 40 different sets of materials for the training of GHS staff in malaria case management in Year 3;
- Participation of ADDRO Project Manager and Liaison Officer in the quarterly health partner review meetings and brainstorming sessions conducted by PMI, as well as in the annual Malaria Operational Plan (MOP) meetings for Ghana.

J. Publications and presentations at major conferences or events

None to date.

K. Stories

Story 1: Liberation through knowledge

Padaguur is a community of about 1,000 residents – mainly peasant farmers – about a two-hour drive from Bolgatana in Garu-Tempane district. The closest health center is about 10 km away and pregnant women have to trek by foot to receive antenatal care series. Prior to the MCP project, few women, many of whom work with their husbands on their farms, visited antenatal clinics.



It was not uncommon in this community for 7-10 pregnant women to lose their babies within a short period of time. Many young children also died from “strange diseases”, which residents attributed to attacks from ancestors, witches, and other supernatural beings. According to Padaguur’s chief, Nderaug Ayinga (pictured with an MCP project officer), *“I have experienced difficult days in this community trying to console mothers who lost their babies and husbands who lost their wives. It has not been easy to bury so many people within short intervals. We thought our ancestors*

were punishing us until we learnt that mosquitoes and malaria were the cause of our predicament. I am glad the community is aware of the causes and preventive methods. Most pregnant women now deliver healthy babies and children sleep well at night.”

The MCP educated the community about preventing malaria through durbars and home visits, and distributed LLINs. Women in the community encouraged their friends and those in

neighboring communities to use the nets and testified to their effectiveness. The chief and other prominent community members also encouraged people without nets to purchase them on their own.

To increase attendance at antenatal care clinics and thus IPT uptake, pregnant women decided to make the trips to the clinic en masse, to support each other and to reduce the boredom and fatigue of walking alone. Some community leaders, with ADDRO support, are now advocating to the DHMT to set up a CHPS clinic in the community to enable residents to receive malaria and other services right in their community.

Story 2: Building community unity through malaria prevention

The people of Sinyua, a village of 326 people in Garu-Tempene district, have been beneficiaries of the Malaria Communities Program (MCP) for three years. During the closeout durbar, the community's chief, Naba Ndeyaaba Atampuri, declared: *"We, the people of Sinyua, cannot lie nor hide our feelings any longer with regards to the benefit we've received from the generous support of the American people through the ADDRO/ERD malaria project. We have not seen such an intervention before. The community has been united through the various durbars and other community activities. We have used such platforms to make most of our community decisions and this would continue. With the education about malaria that we received from the local radio stations, our community volunteers ("karaches", or learned people) and the project officers, our thinking and habits about malaria have totally changed. Malaria is no longer bothering us as it was before after we listened and followed the educational messages we received."*

He added *"Good things do not last forever. The MCP is leaving the community, but this should not be the end"*. He urged the community volunteers to continue monitoring LLIN use in the community and to continue working closely with the community health center to promote good health. He solicited the community's support in motivating the volunteers regularly. *"Going back to our old habits" he said, "is not an option. Lives cannot be lost anymore. I thank the donors for thinking about us even though they are far away. Ti pusiba barika (thank you)"*.



Story 3: Improving family health and finances through good malaria prevention practices

In the community of Bulinga in Bawku West district, we met Mumile Issaka, who has been using an LLIN for the past three years, in her compound. She had heard about the benefits of sleeping under a bed net through radio spots sponsored by the MCP, and had wondered how she could acquire one since her family had few resources to purchase nets. Mumile works on her husband's farm and sells food crops that they grow to make ends meet. They have five children.

After a community durbar, volunteers hung three nets for her family and that was the turning point in their lives. It also affected the family's

finances. Once they started using the nets, the family stopped having to visit the hospital and spent hardly any money on drugs. During Mumile's last pregnancy, her husband rode her to the antenatal clinic on the family's bicycle – an act that was totally new to her! She cherished that moment.



Mumile and her husband in front of one of their nets

The nets are still hanging and the family is still using them. Mumile expressed her gratitude and said *"The net has saved us a great deal because our children who used to get ill frequently are healthy and able to sleep soundly"*. Her husband quickly affirmed her story and showed his appreciation.

Story 4. Title: Good sleep, good health

Mmalebina Ayinga, a 78 year old basket weaver, lives in Bulinga, a community in the Bawku-West district, with her four-year-old grandson, whose mother had passed away two years ago. On a typical day, she weaves and sells her baskets to support herself and her grandson. Mmalebina understands her grandson's good health impacts on his education. Her hopes are that he would become a doctor one day.

Mmalebina recounted how she struggled every night to drive away mosquitoes so her grandson could sleep soundly. *'I often stayed awake deep into the night fanning and driving away the mosquitoes that attacked us. I always felt tired in the morning and this affected the number of baskets I could weave the next morning but I know somehow that fanning my grandson kept many of the mosquitoes away. Unfortunately, we got bitten when I fell asleep again. I knew mosquitoes caused malaria but I couldn't prevent them from biting us. I knew my little boy could get sick and miss school.* She briefly exhibited how she used to fan her grandson every night.

Mmalebina received one net during the distribution. She uses the net every night and claimed that it has really protected them from malaria. She expressed appreciation for the assistance and promised she would get her net replaced when she notices it is getting worn.



Mmalebina weaving her basket



Mmalebina illustrating how she drove away mosquitoes at night until she received an LLIN.

L. Photographs



ADDRO staff benefiting from M&E training in Bolgatanga
Photo taken by Emmanuel Tia Nabilla



ADDRO staff benefiting from M&E training in Bolgatanga
Photo taken by Emmanuel Tia Nabilla



The Bawku West project officer with community leaders during an initial community meeting

Photo taken by Eric Akeliba.



The GaruTempane project officer interacting with community leaders during volunteer selection.

Photo taken by Daniel Aburago, Project Officer of GaruTempane



BCC officer facilitating a discussion using PLA tools to identify community level bottlenecks at Waskukua in Garu-Tempene District

Photo taken by Daniel Aburago- Project Officer of GaruTempene



Project officer taking attendance during entry at Nambina in Garu-Tempene District

Photo taken by Daniel Aburago, Project Officer for Garu Tempene district



Project officer interacting with MCAs during review meeting at Bugri sub-district in Garu-Tempene District

Photo taken by Felix Akeliba, BCC Officer for Garu-Tempene



Project officer in a durbar at sinyuain Garu-Tempene District

Photo taken by Felix Akeliba, BCC Officer for Garu-Tempene



Project officer during community durbar at Sinyua in Garu-Tempene district
Photo taken by Felix Akeliba, BCC for Garu-Tempene



Project Office demonstrating how nets should be hung at Siisiin, Garu-Tempene District
Photo taken by Felix Akeliba, BCC Officer for Garu-Tempene



Hang up training at Zebilla in the Bawku West District/ Regional Launch in Bolgatanga

Photo taken by Titus Alzumah



Net hanging training at Zebilla in the Bawku West District during regional launch in Bolgatanga

Photo taken by Titus Alzumah



A net hanging in a room in Bawku Municipality
Photo taken by Titus Alzumah



A nursing mother and beneficiary poses close to her net with her infant in Binduri sub District in Bawku
Photo taken by Titus Alzumah



Volunteers carrying nets to distribute and hang in households in Bazua, Bawku
Photo taken by Titus Alzumah



Volunteers carting nets on Bicycle in Zawse in Bawku
Photo taken by Titus Alzumah



Volunteer nailing to hang a net in Zawse, Bawku
Photo taken by Titus Alzumah



A cross-section of participants during a group discussion in GaruTempane district
Photo taken by Daniel Aburago, Project Officer of Garu-Tempane district

Annex 1. Net Usage Monitoring Sheet
ANGLICAN DIOCESAN DEVELOPMENT AND RELIEF ORGANIZATION (ADDRO)
MALARIA COMMUNITIES PROGRAM OPERATIONS (2009-2012)
COMMUNITY VOLUNTEERS NET USAGE MONITORING SHEET

PERIOD: QUARTER/MONTH:.....

DATE:.....

NAME OF COMMUNITY:					NAME OF VOLUNTEER:					
SUB-DISTRICT:					NAME OF PROJECT OFFICER:					
DISTRICT:					NAME OF BCC OFFICER:					
#	House Number	Name of Compound	Name of Compound Head	Name of House Hold Head	Condition of Long Lasting Insecticidal Nets (LLINs)			Number of Nets distributed or replaced	Number of Nets in Household	
					Good (Pls write the number)	Torn; needs sewing (Pls write the number)	Bad; needs replacement (Pls write the number)		In pack	Hanged
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
Total										

EDUCATION / SENSITIZATION

Focus of Education / Sensitization		Number of People Reached / Benefited	
		M	F
A	Malaria Prevention Methods		
C	Symptoms of Malaria		
D	Malaria Treatment		
E	Bed Net Usage and Maintenance		
Total			

CHALLENGES FROM THE FIELD (Please write any challenges you faced on the field)

HOW DID YOU DEAL WITH THE CHALLENGES?

Annex 2. Criteria for volunteers serving as Malaria Control Agents

The Community Volunteers were selected based on the following criteria: They should:

1. Be prepared to do voluntary work in his/her community.
2. Be a resident of the community.
3. Be able to speak the predominant local language(s) fluently.
4. Be willing and able to educate the general population on health issues, especially malaria.
5. Be able to communicate easily and have good interpersonal communication skills;
6. Be of good character, in terms of:
 - a. Dynamism (ability to take initiative)
 - b. Good moral values, sociable, and trustworthy;
7. Be accepted by the community
8. Be at least 18 years old
9. Have had at least basic education to be able to read and write.