



OFFICE OF INSPECTOR GENERAL

AUDIT OF USAID/GHANA'S MALARIA PROGRAM

AUDIT REPORT NO. 7-641-11-011-P
SEPTEMBER 22, 2011

DAKAR, SENEGAL



Office of Inspector General

September 22, 2011

MEMORANDUM

TO: USAID/Ghana Mission Director, Cheryl Anderson

FROM: Acting Regional Inspector General, Van Nguyen /s/

SUBJECT: Audit of USAID/Ghana's Malaria Program (Report No. 7-641-11-011-P)

This memorandum transmits our report on the subject audit. In finalizing the report, we carefully considered your comments on the draft report and have included them in Appendix II.

The report includes five recommendations. Final action has been taken on Recommendations 1, 4, and 5, and management decisions have been reached on Recommendations 2 and 3. Please provide the Audit Performance and Compliance Division in the USAID Office of the Chief Financial Officer with the necessary documentation to achieve final action.

I appreciate the cooperation and courtesy you extended to my staff during the audit.

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Abbreviations

The following abbreviations appear in this report:

- ADS Automated Directives System
- DQA data quality assessment
- FY fiscal year
- NMCP National Malaria Control Program
- OIG Office of Inspector General
- PMI President’s Malaria Initiative
- PMP Performance Management Plan
- ProMPT Promoting Malaria Prevention and Treatment program

SUMMARY OF RESULTS

The Ghana Health Service reported 3.7 million cases of malaria in the country in 2009. The same year, the World Health Organization found that malaria accounted for 25 percent of all deaths of children under five.¹ In its 2009 Malaria Operational Plan, USAID/Ghana reported that, in Ghana, “Malaria is a major cause of morbidity and mortality directly contributing to poverty, low productivity, and reduced school attendance.”

Because of this high malaria burden, Ghana is one of 17 countries² benefiting from the President’s Malaria Initiative (PMI), a U.S. Government multi-year initiative³ led by USAID and implemented with the Centers for Disease Control and Prevention. PMI aims to scale up malaria prevention and treatment interventions rapidly in high-burden countries in sub-Saharan Africa to reduce malaria-related mortality in each by 50 percent. This goal will be achieved by reaching the most vulnerable groups—pregnant women and children under five years of age—with proven preventive and therapeutic interventions, including artemisinin-based combination therapy treatments (medicine to treat malaria), insecticide-treated bed nets (which prevent contact with mosquitoes), intermittent preventive treatments for malaria in pregnancy (medicine to prevent malaria in pregnant women), and indoor residual spraying with insecticides (spraying interior walls to kill or repel mosquitoes that spread malaria).

During fiscal year (FY) 2009 and 2010, the mission worked to implement these activities through cooperative agreements and task orders with 13 prime partners. USAID’s Regional Inspector General in Dakar selected for audit the three largest programs, shown in the table below.

Audited Programs			
Implementing Partner	Program	Agreement/Task Order	
		Amount (\$ million)	Type and Dates
John Snow Inc.	The DELIVER project procures malaria treatment and prevention supplies and transports them to health facilities. It also provides technical assistance to Ghana’s National Malaria Control Program (NMCP).	8.67 (expended for Ghana, FYs 2009 and 2010)	Washington-based Task Order 4/2007-4/2012
RTI International	The indoor spraying program sprays households in the Northern Region of Ghana with residual insecticide.	6.96 (expended for Ghana, FYs 2009 and 2010)	Washington-based Task Order 9/2009-9/2014
University Research Company	The Promoting Malaria Prevention and Treatment (ProMPT) program strengthens the capacity, effectiveness, and reach of the NMCP and supports all key actors in malaria prevention and control.	15.4	Cooperative Agreement 3/2009–3/2012

¹ *World Malaria Report 2010*, World Health Organization, 2010.

² Countries include Angola, Benin, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Uganda, and Zambia.

³ Section 303 (“Assistance to Combat Malaria”) of the Tom Lantos and Henry J. Hyde United States Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008, P.L. 110-293 (the Lantos-Hyde Act) authorizes \$5 billion to be appropriated during the 5-year period beginning on October 1, 2008, to combat malaria. This provision is codified at 22 U.S.C. 7633.

USAID/Ghana's FY 2009 and 2010 obligations for PMI totaled \$11.6 million and \$19.3 million, respectively. The mission expended \$10.3 million during FY 2009 and \$15.5 million during FY 2010 for PMI activities.

The Office of Inspector General (OIG) conducted this audit to determine whether USAID/Ghana's PMI program was achieving its goals of reducing malaria-related illnesses and deaths through effective prevention and treatment interventions.

The audit determined that the program was achieving key results related to preventing and treating malaria during the period audited (Appendix III). During the two fiscal years audited, the mission exceeded its target for purchasing 1.3 million nets by purchasing 1.4 million nets, which can greatly reduce the risk of malaria infection. Moreover, the mission greatly contributed to a successful and pioneering door-to-door net-hanging campaign and used several channels of behavior-change communications that resulted in a near doubling of the rate of bed net usage. USAID/Ghana also exceeded its indoor spraying target by providing indoor spraying to 141,621 of a targeted 126,210 houses in FY 2009 and 169,924 of a targeted 157,660 houses in FY 2010. Such spraying reduces the risk of malaria infection by killing mosquitoes before they transmit malaria to another person. The mission's indoor spraying program also promoted entomologic training and research and provided training and employment opportunities that contributed to capacity building in this sector for the country.

However, some results were not obtained, for reasons beyond the mission's control. Although the mission intended to train 29,841 people in malaria treatment or prevention over the 2 years audited, it trained only 22,527 people. This shortfall occurred because the mission and programs had to delay implementation until Ghana's Ministry of Health established the training curriculum. Moreover, although the mission had procured enough malaria treatment medication to meet national demand (1,142,759), the mission fell short of its target for the number of treatments procured for the 2-year period (2,350,000) because other donors stepped in to contribute more medication, decreasing the amount that the mission needed to purchase. This development allowed the mission to focus these dedicated resources elsewhere.

The audit found positive impact from malaria activities as well as areas for improvement. Specifically, the audit determined that:

- The net-hanging campaign increased bed net usage (page 4).
- Errors in spraying data went undetected (page 5).
- The Prevention and Treatment Program's management plan did not track needed data (page 8).

To address these issues, the audit team recommends that USAID/Ghana:

1. Establish and implement a plan to improve verification of spray data (page 8).
2. Update Mission Order 203-1 to require data verification and documentation as part of activity managers' site visit activities (page 8).
3. Include data validation for all PMI indicators in the planned data quality assessment (page 8).

4. Update the performance management plan (PMP) for the ProMPT program to include and allow tracking of PMI-reported indicators (page 9).
5. Develop and implement a plan for the ProMPT program to verify data reported to the mission (page 9).

Detailed findings appear in the following section. Our evaluation of management's comments is on page 10. Appendix I contains a description of the audit scope and methodology. USAID/Ghana's written comments on the draft report appear in Appendix II.

AUDIT FINDINGS

Net-Hanging Campaign Increased Bed Net Usage

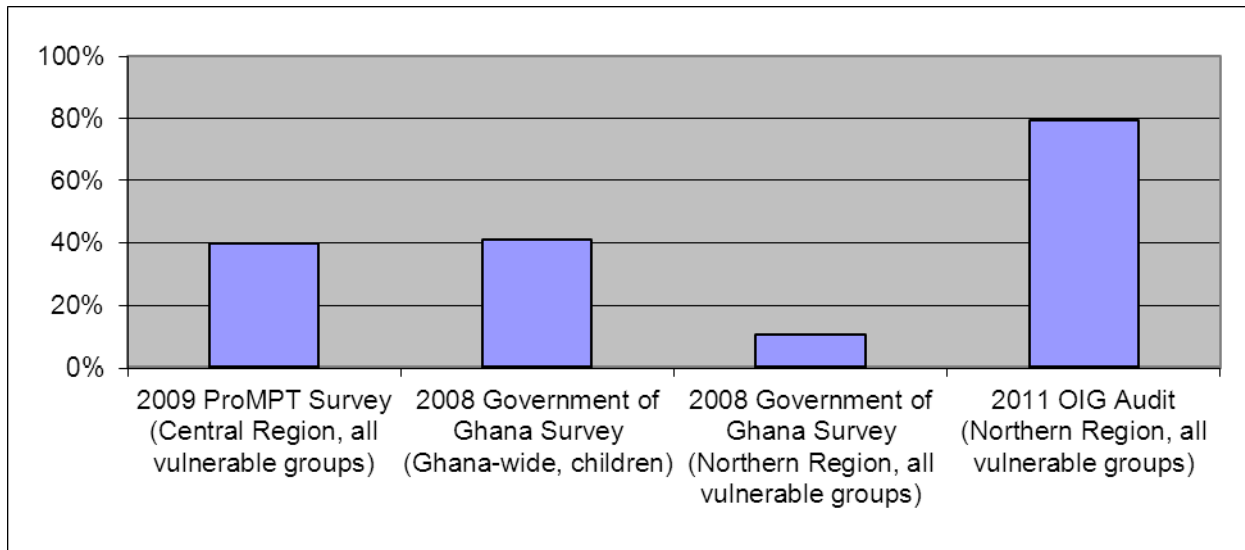
PMI aims to have 85 percent of groups that are vulnerable to malaria (pregnant women and children under the age of five) sleep under an insecticide-treated net each night. However, a study conducted by the ProMPT program in December 2009 in Ghana's Central Region found that only 12 of 30 bed net owners (40 percent) were using their nets. Furthermore, the 2008 Ghana Demographic and Health Survey⁴ found that only 41 percent of children under five slept under any type of bed net the night before the survey, and this figure dropped to between 10 and 11 percent for vulnerable groups using an insecticide-treated net in Ghana's Northern Region. The same study found that only 41 percent of pregnant women living in rural settings slept under any type of bed net the night before.

In an effort to increase the number of pregnant women and children under five years old sleeping under bed nets, USAID/Ghana worked with the ProMPT program and DELIVER project and in partnership with the Government of Ghana and other donors to implement a bed net distribution and hanging campaign in May 2010 in all 20 districts of Ghana's Northern Region, where there is perceptible seasonal variation in the transmission of malaria. The assumption was that by providing the resources to ensure the bed nets were hung properly, the beneficiaries would be more likely to use them. The campaign recruited and compensated community members to visit all households in the region to determine the number of bed nets needed to cover vulnerable groups. Using the results of this survey, USAID provided 562,737 bed nets through the DELIVER project. A crew of volunteers trained and organized by ProMPT and other donors not only distributed the nets to the targeted beneficiaries, but also hung the nets in beneficiaries' residences to help encourage use.

During visits to 57 beneficiaries of this campaign (pregnant women and children under five in the Northern Region), the audit team found that 79 percent had slept under a campaign-provided, insecticide-treated net the night before (Figure 1). This finding represents a near doubling of the precampaign data for Ghana and an almost 800 percent increase over the Northern Region data (which was for children only). Furthermore, the high usage rate indicates a significant step toward reaching the PMI goal of 85 percent coverage for these vulnerable groups.

⁴ *Ghana Demographic and Health Survey 2008*, Ghana Statistical Service and Ghana Health Service, September 2009.

Figure 1. Net Usage by Vulnerable Groups*



* Percentage of survey respondents who reported that they had slept under a bed net the previous night.

Of the beneficiaries interviewed, 88 percent stated that they were using the net because of guidance from volunteers carrying out the Ghana Health Service campaign, who had received training and substantial support from the ProMPT program. ProMPT supported communication of behavior-change messages to the region through radio, local nongovernmental organizations, and even religious leaders. In addition, RTI trained the sprayers to remind beneficiaries to rehang their nets following the indoor spraying visits.

USAID/Ghana’s efforts have increased net usage. The increase in net usage can be attributed to the net-hanging campaign, as well as to other activities that the mission used to maximize its resources. Although net distribution from fixed locations such as clinics or retail outlets has been going on throughout Ghana for several years, this was one of the first mass distribution and hanging campaigns in Ghana. Recognizing the pioneering technique of the program, the Alliance for Malaria Prevention named Ghana “Lead Innovator” for the distribution of long-lasting insecticide nets in 2011.

Although reliable current data on the malaria prevalence in the Northern Region was not available at the time of our audit, the PMI 2010 Annual Report states that the use of bed nets by pregnant women and by children under five reduces malarial illnesses by up to 50 percent. The Government of Ghana plans to conduct a large Demographic and Health Survey in 2012, which should further illustrate progress toward achieving PMI goals in the Northern Region.

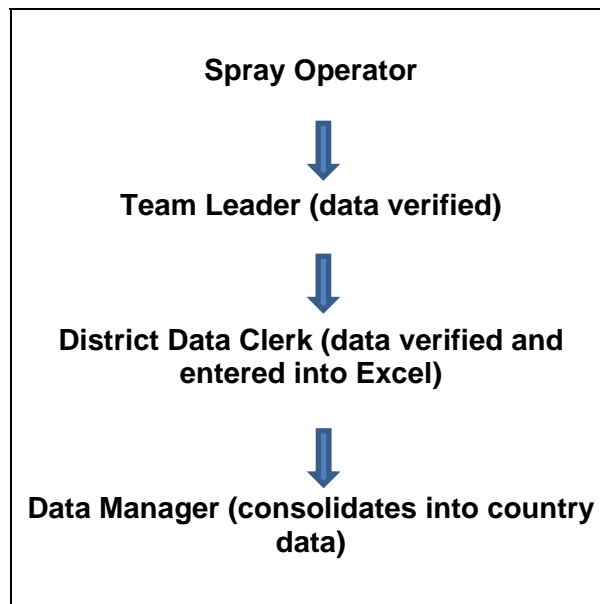
Implementer Data Errors Went Undetected by the Mission and the Implementer

Section 203.3.5.1 of USAID’s Automated Directives System (ADS) states that USAID missions should ensure that performance data meet five data quality standards—validity, integrity, precision, reliability, and timeliness. Accordingly, Section C.2 of USAID/Ghana’s Mission Order 203-1 states that it is necessary for the mission to “critically appraise its performance measurement systems and data sources from time to time to ensure that the indicators continue

to measure what they are intended to measure, and that data are collected in the manner that was initially intended.” Consequently, the first objective of RTI’s monitoring and evaluation plan is to “sustain an efficient data flow system that will carry accurate and timely information from the spray operator level to the central level with minimum opportunities for error.” Finally, ADS 203.3.5.2 states that data quality assessments (DQAs) are required “at some time within the three years before submission” of data to Washington for Government Performance and Results Act reporting purposes or for reporting externally on USAID performance, and are intended to ensure that teams are aware of the strengths and weaknesses of the data.

During the 2010 spray campaign, the collection of data (process shown in Figure 2) began with spray operators. Each spray operator completed a card for each day of spraying, showing the number of structures found, the number sprayed, the number of people protected, and other details regarding the structures sprayed. At the end of each day, a spray team leader collected the operator cards from his or her team (usually consisting of four operators), verified the cards’ accuracy, and summarized the data on a team leader card. The team leader passed his card and his operators’ cards to the district data clerk. The district data clerk was to verify the accuracy of this data, enter the team leaders’ data into a spreadsheet, and send it to the RTI Northern Region main office for daily calculations and, ultimately, further verification by the data manager of the indoor spraying program.

Figure 2. RTI’s 2010 Daily Data Reporting Process



The audit’s review of the indoor spraying data revealed the following intentional and unintentional errors that neither the mission nor the partner detected during data verification.

Intentional Overreporting of Spray Results. Several team leaders’ reporting cards contained falsified data. Specifically, 19 percent of the team leader cards (6 of 32) reviewed for two subdistricts were manipulated to increase either the number of structures found, the number of structures sprayed, the number of people protected by spraying, or a combination of all three primary indicators reported to USAID/Ghana. The overstatements ranged from 30 to 320 percent. The main technique used to falsify the data was to overwrite the spray operators’ reported number, generally in multiples of ten or more. Besides inflated numbers, the overwritten cards contained the names of fictional beneficiaries, along with those of possibly

fictional spray operators and accompanying data. Many of these manipulations should have been obvious to any reviewer based on the crude way they were conducted. While some individual team leaders' cards showed overstatements of more than 80 percent for the number of people protected by spraying, the effect of the manipulation on the overall program data was immaterial, since these incidents appeared to be limited to the data of two of the eight subdistricts reviewed. Speculating that the team leaders manipulated data in an effort to outshine or remain equal with their peers in order to maintain their jobs, the chief of party stated that he would identify the responsible parties and take necessary action.

Unintentional Data-Entry Errors. Data clerks made errors while entering data into the RTI spreadsheet. Specifically, in one district, the audit team noted differences between data on team leaders' cards and data in the spreadsheet for 13 of the 19 cards verified (68 percent) for the number of structures found, number of structures sprayed, and number of people protected. Although the problem was quite prevalent in this one district, a brief review of data entry in a second district did not reveal any data-entry errors. Fortunately, even with this high error rate, the overall misstatement of data in the sample was less than 3 percent for each of the three indicators. The chief of party suspected that time pressure on the district data clerks was the most likely cause for the data-entry errors. Each day, the district data clerks receive the spray operator data in late afternoon when the spray teams return from their spraying activities. RTI's end-of-business-day deadline for data submission means that the data clerks must review and enter data for more than 60 spray teams in 2 hours under less-than-ideal working conditions.

These problems went undetected because of a lack of monitoring and verification of reported data by both the partner and the mission. Even though RTI's monitoring and evaluation policy requires it to verify 10 percent of all spray cards, the quality of this review was not sufficient to identify the errors. Additionally, the controls already in place—requiring team leaders and data clerks to sign that they verified the data—were not effective; the audit team noted that errors existed even when signatures of approval were present.

The mission also has a responsibility for data verification. Although the mission conducted as many as nine site visits per year to monitor spraying activities to ensure performance and environmental compliance, the site visits did not include the data verification necessary to identify these types of errors. The fact that RTI maintains data printouts at the district offices instead of at its regional or Accra office limited the mission's ability to verify data. Furthermore, the health office's most recent DQA, conducted in April 2008, did not include data validation for the indoor spraying activities because the program had not yet generated any reportable data. The mission planned to hold its next program wide assessment of health data quality in July 2011.

The mission and RTI noticed some problems with erroneous data in 2010 and, at the time of the audit, had already taken some steps to improve data accuracy. However, the prevalence of both intentional and unintentional errors in the spraying data could result in RTI reporting erroneous data to USAID, PMI, and Congress. Although the samples tested by the audit team did not indicate that the overall data was materially misstated, insufficient partner and mission data monitoring could permit significant misstatements to occur and be reported in the future. Erroneous data may affect partner and USAID decisions and perceptions regarding program performance. Furthermore, failure to detect intentional data inflation could lead to an increase in the prevalence and significance of misstatements, as the dishonest parties find that the misstatements have gone undiscovered.

Recommendation 1. *We recommend that USAID/Ghana work with RTI International to establish and implement a plan that increases the frequency and thoroughness of RTI's spray data verification efforts.*

Recommendation 2. *We recommend that USAID/Ghana update Mission Order 203-1 to require activity managers to perform and document periodic data testing as part of their monitoring visits.*

Recommendation 3. *We recommend that USAID/Ghana include data validation for all President's Malaria Initiative indicators in the planned data quality assessment for health programs.*

The Prevention and Treatment Program's Management Plan Did Not Track Needed Data

In the ProMPT cooperative agreement, USAID requires University Research Company to prepare a performance management plan (PMP) to “objectively assess the overall progress and impacts of project activities with the ultimate goal of achieving the expected PMI results.” The agreement further requires that the PMP “include the core PMI indicators.” The program description integrated into the agreement states that ProMPT's PMP will track indicators such as the number of people trained, which will be drawn from project records and generally be reported on through project quarterly reports.

For a PMP to be effective, it must include indicators used by stakeholders to judge the effectiveness of the activities. One of the indicators listed in the PMI planning document “Monitoring and Evaluation Indicators to be Used within the President's Malaria Initiative” is *Number of people (medical personnel, health workers, community workers, etc.) trained in malaria treatment or prevention.* Although this was one of the five indicators the mission included in its FY 2010 Performance Plan and Report—the mission reported 14,008 people trained in 2010, 8,383 of them through ProMPT—this indicator did not appear in the ProMPT PMP.

The absence of this indicator from the PMP meant that the ProMPT program did not separately track the *total* number of people trained in malaria treatment or prevention during the year. ProMPT contracted with an outside company to develop a monitoring and evaluation software package to track data in accordance with the program's PMP. Although this software allowed ProMPT's monitoring and evaluation staff to track the number of people trained in malaria case management and in the treatment of malaria in pregnancy, the software did not allow staff to record numbers of people trained in net hanging and preregistration for the net campaign or the numbers of people trained by sub-grantees.

Because of this shortcoming, when the mission requested ProMPT's results for the number of people trained in malaria prevention or treatment to report in its FY 2010 Performance Plan and Report, a lengthy back-and-forth discussion was required to determine which trainees to include in the total. The result was a number made up of multiple groups of trainees that was not based on solid data from ProMPT's monitoring and evaluation team. For example, ProMPT reported 1,189 people trained by its sub-grantee organizations. During the audit, the monitoring and evaluation team was not readily able to support this number because its software package was not programmed to capture this information. ProMPT's monitoring and evaluation team could provide ready support for only 35 percent of people reported as trained. For the remainder, the

monitoring and evaluation team had to turn to other program offices or even to partners to gather the supporting documentation.

This situation resulted from the failure of the mission and ProMPT to ensure that the program's PMP included the required primary malaria indicators used for reporting purposes. Additionally, failure to require ProMPT to report on this standard indicator more often than annually makes it difficult for the mission to track ProMPT's progress toward meeting its annual targets as well as the mission's. The audit team noted that, in spite of the difficulties in reporting data for this indicator in 2010, ProMPT had not updated its monitoring and evaluation system to track total people trained for FY 2011. If the mission requests the same indicator data for FY 2011 reporting purposes, ProMPT officials stated that they would likely encounter similar problems.

Recommendation 4. *We recommend that USAID/Ghana, in conjunction with University Research Company, include and allow tracking of standard President's Malaria Initiative indicators in the Promoting Malaria Prevention and Treatment Program's performance management plan.*

Recommendation 5. *We recommend that USAID/Ghana, in conjunction with University Research Company, develop and implement a plan for the Promoting Malaria Prevention and Treatment Program to verify data reported to the mission.*

EVALUATION OF MANAGEMENT COMMENTS

USAID/Ghana agreed with all five recommendations in the draft report. Having reviewed the actions taken by the mission and the supporting documentation provided, we have determined that final action has been taken on Recommendations 1, 4, and 5, and management decisions have been reached on Recommendations 2 and 3. In addition, we have clarified the report based on the mission's requests. Our evaluation of management comments is shown below.

Recommendation 1. USAID/Ghana has developed a data verification plan that includes more frequent site visits as well as better controls over data collection that will increase the confidence in reported data. Accordingly, final action has been taken on this recommendation.

Recommendation 2. USAID/Ghana agreed with this recommendation and intends to update Mission Order 203-1 by October 31, 2011. Accordingly, a management decision has been reached on this recommendation.

Recommendation 3. USAID/Ghana agreed with the recommendation and intends to conclude a DQA for all health indicators, including PMI indicators, by October 30, 2011. Accordingly, a management decision has been reached on this recommendation.

Recommendation 4. USAID/Ghana agreed with the recommendation and included mission-reported standard PMI indicators in the new ProMPT PMP, which was approved on August 31, 2011. Accordingly, final action has been taken on this recommendation.

Recommendation 5. USAID/Ghana agreed with the recommendation and, in conjunction with ProMPT, revised its Activity Record-Keeping Procedures and Processes for implementation on September 1, 2011, to ensure data reported are valid, verified, and supported. Accordingly, final action has been taken on this recommendation.

SCOPE AND METHODOLOGY

Scope

The Regional Inspector General/Dakar conducted this performance audit in accordance with generally accepted government auditing standards.⁵ Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions, in accordance with our audit objective. We believe that the evidence obtained provides that reasonable basis. The objective of the audit was to determine whether USAID/Ghana was achieving its PMI goals of preventing and treating malaria.

In planning and performing the audit, the audit team assessed management controls related to management review, proper execution of transactions and events, and performance targets and indicators. Specifically, we reviewed and evaluated the following:

- FY 2009 and 2010 Malaria Operational Plans
- FY 2009 and 2010 Performance Plans and Reports
- Mission portfolio reviews
- Implementing partner agreements and task orders
- Implementing partner work plans
- Implementing partner annual reports
- Certification required under the Federal Managers' Financial Integrity Act of 1982⁶

We interviewed key USAID/Ghana personnel, implementing partner staff, collaborating partner staff, program beneficiaries, and Government of Ghana officials. We conducted the audit at USAID/Ghana in Accra and at the office and activity sites of the implementing partners in Accra and the Northern Region. Audit fieldwork was conducted from May 16 to June 1, 2011. The audit covered PMI activities that took place in FYs 2009 and 2010.

USAID/Ghana's FY 2009 and 2010 obligations for PMI totaled \$11.6 million and \$19.3 million, respectively. The mission expended \$10.3 million during FY 2009 and \$15.5 million during FY 2010 for PMI activities.

Methodology

To answer the audit objective, we reviewed activities implemented under the DELIVER project, the indoor spraying program, and the ProMPT program for compliance with the approved work plans and agreements/task orders and for sufficient documentation to support reported results. We also reviewed agreements, progress reports, financial reports, and performance data of the implementing partners. We reviewed applicable laws, regulations, and USAID policies and procedures pertaining to USAID/Ghana's malaria program, including certification required under the Federal Managers' Financial Integrity Act of 1982, guidance from USAID's ADS, USAID/Ghana mission orders, and project-specific regulations.

⁵ *Government Auditing Standards*, July 2007 Revision (GAO-07-731G).

⁶ Public Law 97-255, as codified in 31 U.S.C. 3512.

We interviewed program and monitoring and evaluation staff at USAID/Ghana, as well as staff at the implementing partners' offices in Accra and at the Government of Ghana's Ministry of Health.

We also performed site visits in the Northern Region of Ghana to observe indoor spraying, bed net distributions, and other PMI activities. Using a judgmental sample, we reviewed data at four of the eight districts where indoor spraying activities occurred during FYs 2009 and 2010. This sample constituted approximately 5 percent of the total for the indicators reported by the partner. During these site visits, we observed indoor spraying activities in action, interviewed individuals who were conducting the activities, and interviewed spraying beneficiaries. We compared reported spraying data with actual observations. We also interviewed 57 beneficiaries of the net distribution and hanging campaign conducted in the Northern Region in May 2010. The sample of sites visited was chosen based on activities that (1) were in progress during the time of our fieldwork, (2) were located in the areas where the project was being implemented, (3) were accessible given audit time restrictions, and (4) were representative of the activities being implemented.

The indicators for which we attempted to verify results were the following:

- Number of insecticide-treated nets purchased with U.S. Government funds
- Number of houses sprayed with U.S. Government support
- Number of people trained with U.S. Government funds in malaria treatment or prevention
- Number of malaria treatment drugs purchased and distributed through U.S. Government support.

The results from the judgmental sample cannot be projected to the universe of all activities on a statistical basis. However, we believe that our work provides a reasonable basis for our conclusions.

MANAGEMENT COMMENTS



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FROM THE AMERICAN PEOPLE

Management Response

DATE: September 1, 2011

TO: Gerard Custer, Regional Inspector General

FROM: Peter Argo, Acting Mission Director, USAID/Ghana

SUBJECT: Draft Audit Report of USAID/Ghana's Malaria Program
Audit Report No. 7-641-11-00X-P

The Mission thanks the audit team for their professionalism, their diligent work on data collection and write-up, and for the open communication during and after the audit on the findings and recommendations.

This memorandum is to report on actions taken to address the recommendations included in the above referenced Draft Audit Report and to clarify some statements in the body of the report. USAID/Ghana requests RIG/Dakar concurrence with our management decisions described below:

Recommendation No 1:

We recommend that USAID/Ghana work with Research Triangle Institute to establish and implement a plan that increases the frequency and thoroughness of Research Triangle Institute's data verification efforts.

Management Decision and Action Taken:

The Mission shares the auditors concern regarding data verification. During the May-August 2011 spray round (i.e. during and after the audit), RTI established and implemented a robust data verification plan. A summary of actions taken is attached as Attachment 1. Key features of this improved regimen include: (1) Data is now collected from the primary source (the spray operator card) and entered directly into a newly installed MS Access based system, eliminating the intermediary step of collation during which some errors (intentional and unintentional) had occurred. (2) An additional day is now allowed for district teams to report spray coverage to the central office, reducing the time pressure which had led to unintentional errors. (3) A stringent tracking and monitoring system has been instituted. Specifically: data verification is performed

by: *team leaders*, who review 100% of the spray operator cards daily; *team supervisors*, who review 50-100% of cards received from team leaders daily; *district M&E coordinators*, who review over 40% of cards and conduct daily home audits to ensure that homes being recorded were actually sprayed; *district operations managers*, who review approximately 20% of cards and conduct daily home audits; *data entry clerks* who review all cards to ensure that data is complete before entering into MS Access; and *regional supervisors* who conduct data audits, review of data entered into the database, and home audits. The PMI activity manager has made two site visits to Northern Region since the audit, during which he verified that the new system is in place and functional.

Based on the actions taken, USAID/Ghana requests resolution and closure of Recommendation No. 1 upon issuance of the Audit Report.

Recommendation No 2:

We recommend that USAID/Ghana update Mission Order 203-1 to require activity managers to perform and document periodic data testing as part of their monitoring visits.

Management Decision and Action Taken:

USAID/Ghana's previous Mission Order addresses data validation and verification during the Data Quality Assessments (DQA), however it does not provide direction specifically targeted to Activity Managers/AOTRs/COTRs during monitoring visits. USAID/Ghana is currently updating the Mission Order to incorporate the new evaluation policy and will include data validation and verification as a required activity for teams when they conduct site visits. Draft monitoring forms have been designed for this purpose and USAID/Ghana will mainstream this into its monitoring and management of existing and upcoming projects, including those under PMI. The Mission anticipates finalizing the updated Mission Order 203-1 by October 31, 2011.

Based on the actions taken USAID/Ghana requests that Recommendation No. 2 be considered resolved upon issuance of the Audit Report. Closure of Recommendation No. 2 will be requested when Mission Order 203-1 is approved and issued.

Recommendation No 3:

We recommend that USAID/Ghana include data validation for all President's Malaria Initiative indicators in the planned data quality assessment for health programs.

Management Decision and Action Taken:

USAID/Ghana will conduct a Data Quality Assessment (DQA) for all of the Health Office's indicators, including malaria, in September and anticipates completing the assessment by October 2011. The DQA is a mandatory requirement the purpose of which is to ensure that USAID/Ghana and Implementing Partners are aware of the strengths and weakness of data as determined by the standards of validity, integrity, precision, reliability, and timeliness. The DQA reports on the extent to which the data integrity can be trusted to influence management decisions and makes recommendations for improving data weaknesses.

Responding to the recommendations in the Audit and the findings from the DQA Team, the 2011 DQA Report will address both the frequency and thoroughness of Research Triangle Institute's, the Promoting Malaria Prevention and Treatment project, and other malaria control projects' data verification efforts and periodic data testing. USAID/Ghana will continue to adhere to the Data Quality Assessment (DQA) requirements provided by the Office of the Director of US Foreign Assistance; that a DQA must be completed every three years for an indicator and if a new indicator is being selected, the first DQA must be undertaken within six months before results are reported to Washington. USAID/Ghana will apply these requirements when conducting the September 2011 DQA for the Health Office's indicators.

Based on the actions taken, USAID/Ghana requests that Recommendation No. 3 be considered resolved upon issuance of the Audit Report. Closure of Recommendation No. 3 will be requested when the September 2011 DQA is completed.

Recommendation No 4:

We recommend that USAID/Ghana, in conjunction with University Research Company, include standard PMI indicators in the Promoting Malaria Prevention and Treatment Program's performance management plan.

Management Decision and Action Taken:

The Mission agrees with the audit recommendation to update the Promoting Malaria Prevention and Treatment Program's (ProMPT) performance management plan (PMP). The Mission and the project agreed in December (email correspondence attached as Attachments 2 and 3) that the PMP would be updated, but this action has been excessively delayed. The USAID AOTR and the ProMPT project have agreed to an updated PMP that includes indicators to track all training activities and people trained. Attachment 4 is the revised ProMPT PMP indicator list which was approved on August 30, 2011.

Based on the actions taken, USAID/Ghana requests resolution and closure of Recommendation No. 4 upon issuance of the Audit Report.

Recommendation No 5:

We recommend that USAID/Ghana, in conjunction with University Research Company, develop and implement a plan for the Promoting Malaria Prevention and Treatment Program to verify data reported to the mission.

Management Decision and Action Taken:

The Mission shares the auditors' concern to ensure that data reported to USAID/PMI is valid, verified, and appropriately substantiated by supporting documentation. The Mission has worked with the ProMPT project staff to revise the procedure and processes for activity record keeping. The revised Activity Record-Keeping Procedures and Processes (Attachment 5) was approved by the Chief of Party and Deputy Chief of Party to take effect on September 1, 2011.

Based on the actions taken, USAID/Ghana requests resolution and closure of Recommendation No. 5 upon issuance of the Audit Report.

USAID/Ghana requests that the following clarifications be included in the final Audit Report (relevant text is highlighted in yellow in the body of the report):

- **Page 1, paragraph 1, “The World Health Organization reported ... and estimated that there were 3.7 million reported cases of malaria...”:** The Ghana Health Services (GHS) releases data on the number of malaria cases reported by health facilities in Ghana. The GHS number is then picked up by other organizations such as WHO. The WHO did not estimate 3.7 million reported malaria cases in Ghana.
- **Page 1, paragraph 2, “...the President’s Malaria Initiative (PMI), a 5-year...”:** PMI was originally a 5-year initiative. However, the 2008 Lantos-Hyde Act expanded PMI for 2009-2013 (<http://www.pmi.gov/about/index.html>).
- **Page 2, paragraph 3, “progress on some results faltered...the mission fell short of its target for the number of treatments procured for the two-year period...”:** The report accurately notes that the Mission did not procure the targeted number of ACTs, falling short of its target for this specific commodity. However, the Mission considers the change in the ACT procurement a positive result rather than a faltering on progress. When the circumstances in Ghana changed, PMI had the flexibility to leverage the support from other donors to ensure that Ghana had the resources to meet its ACT needs and then use the PMI resources to procure and fill gaps in other necessary malaria treatment pharmaceuticals. The procurement change followed PMI approval processes, avoided a potential overstock of a perishable commodity, and helped Ghana to make progress on prompt and appropriate treatment of malaria patients.
- **Page 2, bullet 2 “The implementer intentionally inflated spraying data and made data-entry errors”:** As written, the bullet seems to imply that the implementer as a whole intentionally inflated data. However, the detailed report specifies that data was intentionally inflated in two sub-districts, and that other data entry errors appeared to be largely unintentional. (Of note, both sub-districts fell under the same district data manager, who was let go by RTI in 2010). Please consider rephrasing this bullet to indicate that the implementer had inadequate controls in place to identify and correct intentional and unintentional inaccuracies.
- **Page 4, paragraph 2, “...increase the number of pregnant women sleeping under bed nets...”:** Please note that the net distribution and hang-up campaigns are intended to increase the number of children under five years old and pregnant women sleeping under bed nets.
- **Page 4, paragraph 2, “... USAID/Ghana worked with ProMPT and other donors...”:** To be clear about the relationships among the various organizations supporting the net distribution campaign, it would be more accurate to state that "... USAID/Ghana worked through the ProMPT and DELIVER projects and in partnership with the Government of Ghana and other donors to implement..."
- **Page 5, paragraph 1, “...ProMPT campaign volunteers.”:** The net campaign is led by the Ghana Health Services (GHS) which received substantial technical assistance, financial support, and commodities from PMI through the ProMPT and DELIVER projects. Please change the phrase to "...because of guidance from GHS campaign volunteers who received training and substantial support from the PMI/ProMPT project” or similar language to reflect the GHS leadership.
- **Page 5, paragraph 3, “The government of Ghana plans to do a large Demographic and Health Survey in 2012, which should reveal whether the prevalence of malaria has decreased in the Northern Region.”:** The Demographic and Health Survey will not reveal whether the prevalence of malaria has decreased. The GoG is conducting a Multi-Indicator

Cluster Survey (MICS) in 2011 and a Demographic and Health Survey in 2013, both with support from PMI and USAID. Both surveys will provide important information on PMI's progress toward meeting objectives (e.g. LLINs owned and used, etc.) but neither survey will measure malaria prevalence. The 2011 MICS will measure parasitemia (a measurement of the # of parasites present in a blood sample) which will provide baseline parasitemia levels at the regional level. A PMI funded anemia and parasitemia survey implemented by PMI in Northern Region is currently underway and it is expected to measure the impact on parasitemia of IRS when added to LLINs.

- **Page 6, paragraph 4, “Team leaders’ reporting cards contained falsified data.”:** Please quantify, from the cards sampled, the number or percentage of team leaders who manipulated data.
- **Page 7, paragraph 2, first line:** Do you mean “while” rather than “although”?
- **Page 7, paragraph 4, “Although the mission conducted as many as nine site visits per year related to spraying activities, the site visits did not include the data verification necessary to identify these types of errors.”:** The audit report is correct in noting that site visits did not include sufficient data verification. However, site visits did include other important aspects of program monitoring, such as quality of implementation and compliance with environmental requirements.
- **Page 7, paragraph 4, “Furthermore, the health office’s most recent DQA, conducted in April 2008, did not include data validation for the current PMI indicators.”:** The audit report is correct in noting that the April 2008 DQA did not include data validation for the current PMI indicators. However, please note that no data was available for PMI indicators at the time of the 2008 DQA because PMI launched in December 2007, four months before the 2008 DQA.
- **Page 8, paragraph 2&3, “The Mission reported 14,008 people trained in 2010, and although the training of 8,383 people was attributable to ProMPT, its PMP did not include this clearly defined indicator. The absence of this indicator in the PMP meant that the ProMPT program did not separately track the total number of people trained in malaria treatment or prevention during the year.”:** The audit report correctly notes that the ProMPT PMP did not include an indicator to track all people trained. Taking this point in context, at the inception, PMI and the ProMPT project worked together to ensure that the ProMPT PMP indicators conformed with standard PMI indicators. At that time, PMI and ProMPT planned extensive training of health care workers in case management and prevention of malaria in pregnancy and the PMP included the standard PMI indicator for tracking training of health workers in case management and malaria in pregnancy. As the magnitude of trainings related to the net campaigns and other malaria prevention activities grew, the ProMPT project and PMI worked together to fully capture this additional training data. The Mission engaged in written dialogue with ProMPT to name the specific criteria that qualified events as training. This was a necessary, practical step forward prior to changing the PMP. PMI and ProMPT agreed in December 2010 (see attached email correspondence) that the project PMP needed to be updated. However, the Mission recognizes that the PMP update has been overly delayed and agrees with both recommendations related to the ProMPT project.

Please contact us if there are any questions or clarifications before the final audit report is issued.

MISSION PERFORMANCE

USAID/Ghana's Performance on Selected Indicators in FY 2009 Performance Plan and Report (Audited)

Indicator	Target	Result	Over/ (Under)	Explanation
Number of insecticide-treated nets purchased with U.S. Government (USG) funds	460,000	490,599	30,599	Target exceeded
Number of houses sprayed with USG support	126,210	141,621	15,411	Target exceeded
Number of people trained in malaria treatment or prevention with USG funds	11,341	8,519	(2,822)	Training delayed although mission waited for the Ministry of Health to define a policy integral to the training program
Number of artemisinin-based combination therapy treatments (ACTs) purchased and distributed through USG support	1,750,000	1,142,759	(607,241)	Donors including the World Health Organization and China provided ACTs, creating an oversupply and limiting the number USAID needed to provide

USAID/Ghana's Performance on Selected Indicators in FY 2010 Performance Plan and Report (Audited)

Indicator	Target	Result	Over/ (Under)	Explanation
Number of insecticide-treated nets purchased with USG funds	860,000	955,000	95,000	Target exceeded
Number of houses sprayed with USG support	180,000	169,924	(10,076)	Target incorrectly calculated;* spraying program was actually successful in FY 2010, spraying 97 percent of structures in targeted districts
Number of people trained in malaria treatment or prevention with USG funds	18,500	14,008	(4,492)	Training delayed although mission waited for the Ministry of Health to define a policy integral to the training program
Number of ACTs purchased and distributed through USG support	600,000	0	(600,000)	The mission did not purchase any ACTs because of an oversupply in the country

* The target for FY 2010 was overestimated by 20,000 when a FY 2011 only district was mistakenly included in the FY 2010 population count. The activity manager caught the error and revised the target before approval of the activity's FY 2010 work plan but after the target was set in the FY 2010 USAID/Ghana Malaria Operational Plan. The error was a one-time mathematical mistake that did not indicate a systematic problem with targets.

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