



OFFICE OF INSPECTOR GENERAL

AUDIT OF USAID/MOZAMBIQUE'S IMPLEMENTATION OF THE PRESIDENT'S MALARIA INITIATIVE

AUDIT REPORT NO. 4-656-11-005-P
JANUARY 27, 2011

PRETORIA, SOUTH AFRICA



Office of Inspector General

January 27, 2011

MEMORANDUM

TO: USAID/Mozambique, Mission Director, Todd Amani

FROM: Regional Inspector General/Pretoria, Christine M. Byrne /s/

SUBJECT: Audit of USAID/Mozambique's Implementation of the President's Malaria Initiative (Report No. 4-656-11-005-P)

This memorandum transmits our final report on the subject audit. We have considered management's comments on the draft report and have incorporated them into the final report as appropriate. They have been included in their entirety in Appendix II (excluding attachments).

The final report includes five recommendations to strengthen USAID/Mozambique's malaria program. On the basis of management's comments, we deleted Recommendations 2 and 3 in the draft report from the final report and renumbered draft report Recommendations 4 through 7 in the final report accordingly. On the basis of management's comments and supporting documentation provided, we consider that management decisions have been reached on Recommendations 1 through 5, with final action taken on Recommendations 2 through 5. These recommendations are closed upon report issuance. Please provide the Office of the Chief Financial Officer's Audit Performance and Compliance Division (M/CFO/APC) with the necessary documentation to achieve final action on Recommendation 1.

I want to express my sincere appreciation for the cooperation and courtesy extended to my staff during the audit.

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SUMMARY OF RESULTS

Malaria is a major cause of morbidity and mortality in Mozambique. Approximately 6 million cases are reported each year, and the disease accounts for about 40 percent of all outpatient visits and 60 percent of pediatric hospital admissions. Malaria is also the leading cause of death among children admitted to pediatric services. All 21.5 million people in Mozambique are at risk for malaria, including an estimated 3.6 million children under 5 and almost 1 million pregnant women.

The President's Malaria Initiative (PMI), launched by the United States in 2005, was a 5-year, \$1.2 billion initiative to reduce the burden of malaria in 15 African countries.¹ USAID/Mozambique received its first full year of PMI funding in fiscal year 2007. USAID/Mozambique will receive its fifth year of PMI funding in fiscal year 2011, which because of budget delays will fund PMI activities during the 2012 fiscal year. According to PMI's fiscal year 2009 Malaria Operational Plan for Mozambique, the initiative's overarching goal was to reduce malaria-related mortality by 50 percent through reaching 85 percent of the most vulnerable populations—children under 5 and pregnant women—with proven preventive and therapeutic interventions.² USAID/Mozambique-funded activities in three intervention areas— insecticide-treated bed nets, antimalarial drugs, and indoor residual spraying—constituted roughly 83 percent of the estimated budget for Mozambique's fiscal year 2009 PMI activities.

To implement the fiscal year 2009 malaria program, USAID/Mozambique had agreements with six major partners. The audit covered activities implemented by three partners that provided data in fiscal year 2009: (1) distribution of insecticide-treated bed nets by Population Services International, under a cooperative agreement for \$31 million from April 2006 to August 2011, (2) implementation of indoor residual spraying by RTI International, through participation in a centrally funded indefinite quantity contract for \$3.6 million in fiscal year 2009 (of which \$3.2 million supported activities for indoor residual spraying), and (3) purchase and distribution of antimalarial drugs by John Snow, Inc., through participation in a centrally funded task order for \$10.9 million in fiscal year 2009 (of which \$4.3 million was budgeted to procure, ship, and support the distribution of antimalarial drugs). The budget for fiscal year 2009 malaria activities in Mozambique was \$19.8 million. The cumulative budget for malaria activities in Mozambique from the start of PMI through fiscal year 2009 was \$63.9 million.

The objective of the audit was to determine whether USAID/Mozambique's PMI program was achieving its overarching goal as identified above. The audit found that USAID/Mozambique had made notable contributions to the national malaria program in fiscal year 2009.³ However, as shown in Appendix IV, it was not on track to achieve PMI goals initially set for 2010.

¹ In July 2008, the U.S. Congress passed the Tom Lantos and Henry J. Hyde United States Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008 (Public Law 110-293). Section 303(b) of the act authorized \$5 billion over 5 years (fiscal years 2009-2013) for efforts against malaria.

² Specific targets are identified in Appendix IV.

³ See Appendix III for specific indicators tested.

The audit noted specific fiscal year 2009 achievements, including distribution of approximately 1.2 million insecticide-treated bed nets, compared with a target of 1 million.⁴ Similarly, 2.2 million antimalarial drug treatments were distributed, compared with a target of 2.4 million. The implementing partner reported that 571,194 houses were sprayed in the 2009 spraying season compared with a revised target of 523,773 and audit tests confirmed considerable coverage; however, because of weaknesses in data quality, the audit was not able to determine the actual number of houses sprayed.

Despite recognized malaria program achievements, the audit found that:

- Management of antimalarial drugs and insecticide-treated bed nets did not always meet guidelines (page 3).
- Some spraying results were not valid, reliable, or reported accurately (page 6).
- Some performance data was not reported accurately (page 7).
- Performance monitoring and evaluation was incomplete (page 9).

The report recommends that USAID/Mozambique:

1. Develop and implement a plan with milestones to provide training or technical assistance to appropriate staff at warehouse and health-care facilities that store and dispense USAID-funded antimalarial drugs and insecticide-treated bed nets so that staff are capable of properly maintaining inventory records and managing stocks effectively (page 6).
2. Develop and implement a plan with milestones to train staff of the indoor residual spraying program to record data, maintain source documents, maintain data systems, and report program results properly (page 7).
3. Establish and implement written procedures to ensure that program results reported by implementing partners in quarterly and annual reports are consistent with the mission's performance indicators and annual performance report (page 8).
4. Provide training to mission staff on the requirements for data quality assessments outlined in USAID's Automated Directives System, and develop policies and procedures to make copies of data quality assessments easily accessible to mission staff and implementing partners (page 11).
5. Develop and implement a schedule to conduct periodic site visits that entail data quality testing and verification, and document the results of those visits (page 11).

Detailed findings appear in the following section. The audit scope and methodology are described in Appendix I, USAID/Mozambique's comments appear in their entirety as Appendix II, and our evaluation of management comments is included on page 12. The mission's main malaria performance indicators and outcome indicators are shown with targets and results in Appendixes III and IV, respectively.

⁴ Although there was no target in the performance report for "nets distributed," the mission stated that the target for distribution in fiscal year 2009 was 1 million nets.

AUDIT FINDINGS

Management of Antimalarial Drugs and Insecticide-Treated Bed Nets Did Not Always Meet Guidelines

In fiscal year 2009, USAID/Mozambique budgeted \$10.4 million for the purchase of malaria commodities (53 percent of total planned obligations for fiscal year 2009 malaria activities). Of this amount, the mission budgeted approximately \$3.4 million to procure and ship 2.4 million treatments of antimalarial drugs, and \$6.6 million to procure 1 million insecticide-treated bed nets.

When USAID-funded antimalarial drugs arrived in Mozambique, they were delivered immediately to a national warehouse in Maputo and then to provincial warehouses throughout the country. Similarly, insecticide-treated bed nets were delivered to one of four national warehouses and then to provincial warehouses throughout the country. The antimalarial drugs and insecticide-treated bed nets were considered to be distributed once they were received and inventoried by provincial officials. From there, with few exceptions,⁵ the Ministry of Health allocated the commodities to hospitals, antenatal clinics, and rural health centers and small rural health posts (shown below) to be administered to the appropriate patients: for antimalarial drugs, patients with test-confirmed malaria cases, and for insecticide-treated bed nets, pregnant women and children under 5.



This small rural health post (left) and rural health center (right) in Zambézia Province dispense USAID-funded antimalarial commodities. (Photos by OIG, June 2010)

*Guidelines for the Storage of Essential Medicines and Other Health Commodities*⁶ and World Health Organization (WHO) specifications on good storage⁷ provide instructions on receiving

⁵ Population Services International, the implementing partner for distribution of insecticide-treated bed nets, managed the provincial warehouses in Maputo and Zambézia Provinces and had additional management and oversight responsibilities in those locations.

⁶ John Snow, Inc./DELIVER for USAID, in collaboration with the World Health Organization, 2003.

⁷ WHO Expert Committee on Specifications for Pharmaceutical Preparations: Thirty-Seventh Report, Technical Report Series 908, 2003.

and arranging commodities, keeping track of products in the storeroom, maintaining the quality of the products, and setting up a medical store. Commodity management is also covered by the Government Accountability Office's (GAO's) *Standards for Internal Control in the Federal Government*,⁸ which requires the establishment of physical control to safeguard vulnerable assets such as inventory. Such assets should be counted periodically and reconciled with control records to help reduce the risk of errors, fraud, and misuse. All documentation and records should be properly managed and maintained.

Although the Ministry of Health inherited program control once the commodities were distributed to the provincial warehouses, proper management of USAID-funded commodities at each stage of the supply chain is imperative to ensure their availability to intended beneficiaries. Nevertheless, audit tests identified several problems in the management of USAID-funded antimalarial drugs and insecticide-treated bed nets after they were distributed to the respective provincial warehouses.

Management of Antimalarial Drugs. Audit tests identified concerns with the management of USAID-funded antimalarial drugs at each of the 11 health-care facility pharmacies and drug storage areas visited.

- **Stock records were not maintained adequately.** Although health facilities visited produced some well-maintained stock records, the health facilities also produced some stock records that did not correspond with inventory on hand, indicating unaccounted-for quantities of antimalarial treatments. For example, at one health facility, current stock records indicated that 1,040 treatments of one drug formulation were on hand, whereas only 570 treatments were accounted for following a physical inventory (470 treatments were unaccounted-for). Furthermore, one health facility visited had not updated its stock records since March. The three small rural health posts visited did not maintain stock records at all.
- **Inventory distribution records and receipts were not always available.** One provincial warehouse produced only three distribution invoices for shipments of antimalarial drugs to a rural hospital, whereas the rural hospital's records indicated receipt of five additional shipments of antimalarial drugs during the same time period under review. Similarly, district warehouse distribution records did not fully correspond with receipts at any of the three small rural health posts that were supplied by the district warehouse in fiscal year 2009. For example, one health post provided records showing receipt of only two shipments, whereas the district warehouse recorded seven deliveries during the period in question.
- **First-expired, first-out inventory management was not used.** One health center was not dispensing antimalarial drugs on a first-expired, first-out basis. The center was dispensing antimalarial drugs with an expiration date of September 2011, while the same drugs with an expiration date of November 2010 were still in the original, unopened shipping containers. Additionally, several provincial and district health workers expressed concern about the large quantity of antimalarial drugs due to expire in November 2010. Although the health facilities visited were well stocked with antimalarial drugs, the provincial warehouse that supplies these facilities still had 146,100 treatments on hand, most packaged in kits with a November 2010 expiration date. Warehouse staff indicated that 9,959 treatments remaining in the provincial warehouse had expired in May. Workers at one district hospital indicated that 1,250 treatments expired between January and May and anticipated that even more would expire in June.

⁸ GAO/AIMD-00-21.3.1, November 1999, pp. 14-15.

- **Expired antimalarial drugs dispensed.** One health-care provider had unknowingly dispensed expired antimalarial drugs to patients. The worker was not aware that three out of the four treatment formulations of the USAID-funded antimalarial drug (pictured below) were expired.



Three out of the four treatment formulations in this box at a small rural health post near Nicoadala are expired. (Photo by OIG, June 2010)

Management of Insecticide-Treated Bed Nets. As with antimalarial drugs, USAID-funded long-lasting insecticide-treated bed nets were not always managed properly after being distributed to the provincial warehouses. At one provincial warehouse, the audit disclosed the following problems.

- **Storage best practices were not followed.** Contrary to best practices for storage, insecticide-treated bed nets were stacked very close together and in inconsistently layered rows, making physical inventory and inspection extremely difficult. Additionally, the inventory assistant did not employ the best practice of stock rotation for the nets received from the provincial warehouse. Instead, the inventory assistant was using last-in, first-out management, which left a substantial amount of stock that appeared to have been in the storeroom since the beginning of the program. Although packaged insecticide-treated bed nets have an extended shelf life, mission staff and the inventory assistant agreed that stock rotation is a best practice that should be employed.
- **Inventory could not be accounted for.** The provincial warehouse staff could not account for 1,916 nets in its stock. Though 35,517 nets were listed in the warehouse's inventory records, only 33,601 nets were on hand when the audit team took a physical inventory. The inventory assistant claimed to conduct a physical inventory twice a year; however, the audit team noted that she had been systematically miscounting a large quantity of nets at the core of the net stockpile. Had the inventory assistant employed recommended stock management techniques, including the first-in, first-out method (or first-expired, first-out if applicable), the missing stock would likely have been identified at an earlier stage. The inventory assistant did not know why or when the 1,916 nets had gone missing.

These problems occurred in part because some warehouse and health-care facility staff could not maintain inventory management records and did not know how to properly manage stocks of antimalarial drugs and insecticide-treated bed nets. Mission staff also attributed the quantities of expired or expiring drugs to the Ministry of Health's delay in adopting the USAID-funded antimalarial drug, Coartem, as the first-line treatment.⁹ Additionally, neither USAID nor the implementing partner had regularly conducted site visits to the provincial warehouse to confirm inventory or data quality. As a result of weaknesses in warehouse and health-care facilities' internal controls for commodity management, there was a risk that the antimalarial drugs and insecticide-treated bed nets funded by USAID/Mozambique were improperly handled and misused. To strengthen management of USAID-funded commodities, we make the following recommendation.

Recommendation 1. *We recommend that USAID/Mozambique develop and implement a plan with milestones to provide training or technical assistance to appropriate staff at warehouse and health-care facilities that store and dispense USAID-funded antimalarial drugs and insecticide-treated bed nets so that staff are capable of properly maintaining inventory records and managing stocks effectively.*

Some Spraying Results Were Not Valid, Reliable, or Reported Accurately

USAID's results-oriented approach to management calls for its managers to consider performance information when making decisions. Sound decisions require valid, reliable, and accurate information, and data should be of sufficiently high quality to support the appropriate level of management decisions. USAID's Automated Directives System (ADS) Chapter 203 continues by stating that performance data should be as complete and consistent as management needs and resources permit.¹⁰ Additionally, GAO's *Standards for Internal Control in the Federal Government*¹¹ calls for transactions and significant events to be accurate and clearly documented, with the documentation readily available.

Contrary to the guidance, records supporting the number of houses sprayed (total shown in Appendix III) during the fiscal year 2009 indoor residual spraying campaign conducted from July to October 2009 were not always valid, reliable, or reported accurately. Audit tests disclosed several problems with the transcription of data from the individual daily spray cards completed by the spray operators to the implementing partner's database, which reported 571,194 houses sprayed for the annual spray season. In a sample tested from a selection of spray days in three districts, auditors confirmed records for only 28,090 houses out of a total of 35,317 houses reported as sprayed in the implementing partner's database. The discrepancies in reporting resulted from mathematical mistakes and unsupported records. Data quality problems occurred from initial recording and tallying through database entry, as detailed in the following section.

- **Daily spray cards.** Spray operators did not always correctly add the total number of houses recorded on their daily spray cards. Additionally, daily spray cards for 13 days of

⁹ According to mission staff, USAID/Mozambique initiated the procurement process for Coartem after being informed by the Government of Mozambique that Coartem would be the new first-line treatment. However, unforeseen delays at the Ministry of Health and an extensive trial project for packaging and distribution delayed the roll out of Coartem, even though it had already been procured.

¹⁰ ADS 203.3.2.2.b and ADS 203.3.5.

¹¹ GAO/AIMD-00-21.3.1, November 1999, p. 15.

spraying were completely missing at one base location, leaving no record of spraying 5,701 houses.

- **Daily base summary cards.** Base managers did not always correctly record their base's spray teams' daily results on the daily base summary cards. Managers made occasional errors transcribing the totals from the daily spray cards to the summary cards, and miscalculated summary totals. Additionally, managers could not locate some daily base summary cards.
- **Implementing partner's database.** The implementing partner's data manager sometimes incorrectly entered the daily base summary card totals into the main database.
- **Summary schedule.** The implementing partner's master schedule that was generated by the database and summarized the entire spray season for the performance indicator contained two additional 1,000-house mathematical errors in one district reviewed.

Although most of the data problems noted above can be attributed to human error, a robust system of internal control should prevent or quickly detect these errors. Inadequate training led to insufficiently performed internal control procedures. For example, the implementing partner's data manager did not know to verify the addition on the summary base cards before entering the data into the system, or spot-check data quality on daily spray cards. As for the missing spray records, Ministry of Health staff stated that the 13 days of unaccounted-for records in question went missing during transport from the spray base to the district storage area at the end of the spray season.

Because of mathematical errors and lost records, the mission had no assurance that reported results were valid, reliable, and reported accurately by the implementing partner to the mission. Without reliable data, USAID managers are missing a key tool for making sound, performance-based decisions.

To strengthen the system of reporting results under the mission's indoor residual spraying program, we make the following recommendation.

Recommendation 2. *We recommend that USAID/Mozambique develop and implement a plan with milestones to train appropriate staff of the indoor residual spraying program to record data, maintain source documents, maintain data systems, and report program results properly.*

Some Performance Data Was Not Reported Accurately

As detailed in the previous finding, USAID's results-oriented approach to management calls for its managers to consider performance information when making decisions. Performance data should be of sufficiently high quality to support the appropriate level of management decisions and should be as complete and consistent as management needs and resources permit. ADS 203¹² also states that USAID missions can strengthen performance management by involving partners in the performance management process. This includes collecting, interpreting, and sharing performance monitoring information and experience, jointly defining a critical set of

¹² ADS 203.3.2.2 and ADS 203.3.5

performance indicators, and integrating USAID performance management efforts with similar processes of partners. Failure to have consistent performance indicator reporting systems is not only inefficient but also introduces additional risk of reporting erroneous results.

Despite the above criteria, fiscal year 2009 results for two performance indicators were not reported accurately by the mission in its annual performance report.

- **Performance Indicator 3.** The mission reported that 1.0 million insecticide-treated bed nets were distributed or sold with U.S. Government funds. Source documents, however, indicated that the implementing partner had distributed approximately 1.2 million nets in fiscal year 2009. Additionally, the target for this indicator was omitted from the fiscal year 2009 performance report.
- **Performance Indicator 4.** The mission reported that 2.4 million artemisinin-based combination treatments (antimalarial drugs) were distributed through U.S. Government support. Source documents, however, indicated that the implementing partner had distributed only 2.2 million treatments in fiscal year 2009.

The mission attributed the above discrepancies to the timing of reporting: mission performance reports must sometimes be prepared before the final results have been tabulated by implementing partners. As a result, the mission may be required to report approximations rather than actual results. Furthermore, implementing partners were not clearly reporting on the mission's main performance indicators in their quarterly and annual progress reports, and did not provide the cumulative annual results for Performance Indicators 3 and 4.

Because of the difficulty using quarterly and annual progress reports as a basis for its reported results in the performance report, mission officials stated that they sometimes requested supplemental data on annual results from partners through a series of e-mails. This process raised the risk of introducing additional reporting errors into the system. Moreover, auditors were unable to locate the corresponding source for reported results in the e-mail documentation provided by the mission. However, targets and reported results for these two indicators (1) exactly equaled each other and (2) directly correlated with targets in the fiscal year 2009 malaria operational plan. It follows that the fiscal year 2009 malaria operational plan targets could have been input as placeholders for results in the performance report and never updated. As for the omitted target, staff stated that the mission mistakenly reported the target in the result column, rather than the actual result.

For an efficient operation, implementing partners' reports should be consistent with the mission's annual performance indicators. Therefore, to strengthen the system of reporting results under the mission's malaria program, we make the following recommendation.

Recommendation 3. *We recommend that USAID/Mozambique establish and implement written procedures to ensure that program results reported by implementing partners in quarterly and annual reports are consistent with the mission's performance indicators and annual performance report.*

Performance Monitoring and Evaluation Was Incomplete

ADS Chapter 203, “Assessing and Learning,” provides guidance to USAID missions on determining how well activities are achieving their intended results. As outlined in ADS 203,¹³ each assistance objective team must prepare a complete performance management plan for each assistance objective, or program area, for which they are responsible and include all indicators that will be used to assess progress over the life of the program. Contrary to guidance, USAID/Mozambique’s performance management plan for fiscal year 2009 malaria activities omitted some indicators that were used to track malaria program progress.

Additionally, ADS 203¹⁴ states that USAID performance data reported to Washington for Government Performance and Results Act¹⁵ reporting purposes, or for reporting externally on Agency performance, must have had a data quality assessment during the 3 years before submission. This section of ADS 203 also recommends data quality assessments to inform missions of data strengths and weaknesses and of the extent to which data can be trusted when reporting and making management decisions. However, USAID/Mozambique did not complete data quality assessments for all data that were externally reported for fiscal year 2009 malaria performance indicators.

Furthermore, ADS 203¹⁶ and USAID/Mozambique’s mission orders pertaining to monitoring and evaluation¹⁷ and site visits¹⁸ instruct the mission on how to conduct data quality testing during site visits—for example, including comparing central office records with field site records spot-checking partners’ data for validity and reliability, and documenting the findings. Despite the above criteria, USAID/Mozambique had not been regularly completing or documenting data quality testing during site visits.

Performance Management Plan Was Not Complete. The performance management plan for the fiscal year 2009 malaria program did not contain all of the performance indicators. The plan did not contain Performance Indicators 1 and 5 (shown in Appendix III), which concerned the number of nets purchased and the number of people trained in malaria treatment or prevention. Also, the plan did not include reference sheets for any of the malaria indicators reported in the fiscal year 2009 performance plan and report, which is distributed for use outside of the mission.

Indicator reference sheets provide a quick but complete outline of each performance indicator. Reference sheets should also address the quality of data from implementing partners, which were the primary sources of program data. Without complete reference sheets, the performance management plan did not address the quality of the data used to report on performance indicators.

The mission attributed the omission of indicators from the performance management plan to the development of a new assistance strategy that entailed new assistance objectives and a new performance management plan, and the decision to change some indicators that the mission felt would better show the impact of the program. Because of these changes and impending

¹³ ADS 203.3.3.

¹⁴ ADS 203.3.5.2.

¹⁵ Public Law 103-62.

¹⁶ ADS 203.3.5.3.

¹⁷ Mission Order No. MO200-2, “Performance Monitoring and Evaluation,” August 8, 2009.

¹⁸ Mission Order No. MO200-1, “Site Visit Reporting,” October 25, 2007.

new performance management plan, the mission chose not to update the performance management plan that had been in effect since fiscal year 2007.

Without a complete performance management plan, USAID/Mozambique did not have reasonable assurance that program data met acceptable standards of validity, reliability, and accuracy. Without such assurance, managers may have lacked the performance information needed to make sound decisions. Had the mission established and enacted procedures to maintain a complete plan, some of the data problems previously identified in the report could have been prevented or reduced.

During audit fieldwork, the mission was in the process of preparing a new performance management plan for fiscal year 2010 that incorporated the five malaria program performance indicators. The plan also included indicator reference sheets that provide for data quality testing, as well as a schedule for conducting data quality assessments by year's end. With management approval of the new performance management plan, which was in final draft form as of June 2010, the mission has addressed the deficiencies in the fiscal year 2007 performance management plan set forth above; therefore, this report makes no recommendations concerning this issue.

Data Quality Assessments Were Not Always Completed. While data quality assessments had been completed for some indicators that were reported to USAID/Washington or external sources, mission staff stated that data quality assessments had not been completed for all indicators—specifically, for Performance Indicators 1, 3, and 5 (identified in Appendix III of this report). Moreover, USAID/Mozambique's data quality assessments for fiscal year 2009 malaria activities did not provide for periodic sampling and review of implementing partners' data to ensure completeness, accuracy, and consistency or for determining whether the partners appropriately addressed known problems with data quality.

Mission staff attributed the lack of data quality assessments to a misunderstanding of guidance. According to one mission employee, data quality assessments were required only for indicators included in the performance management plan. Because some indicators were not included in the plan, data quality assessments were not completed for all indicators, even those that were reported to USAID/Washington and external sources in the mission's annual performance plan and report.

Additionally, mission staff demonstrated the difficulty of locating data quality assessments and reproducing them from the mission's document database. Mission staff confirmed on two occasions that a data quality assessment had not been completed for the indoor residual spraying indicator; however, at the conclusion of audit field work a mission employee uncovered a line item in the database that indicated a data quality assessment had been completed for this indicator in 2007. The mission employee was unable to reproduce the data quality assessment on the spot but provided it to the audit team at a later date. If data quality assessments are not easily accessible to mission staff, they will not be a useful tool for internal control.

As a result of a misunderstanding and difficulty with the document management system, the data validity and reliability problems discussed in this report were not identified and addressed before the mission reported results for its five malaria indicators. The mission scheduled data quality assessments to begin at the end of fiscal year 2010. However, a data quality assessment for the indicator on distribution of nets was not scheduled because nets have been consolidated with other commodities into one indicator for socially marketed products. Nevertheless, because the individual commodity data contributes to the total reported result, a

data quality assessment should be conducted specifically for each commodity covered by the indicator, including insecticide-treated bed nets.

Without adequate testing for data integrity, the mission did not have reasonable assurance that data used for performance-based decision making and reporting were valid and reliable. Unreliable data can undermine the appropriateness of management decisions and managers' ability to evaluate the effectiveness and efficiency of their programs. Had procedures been in place to complete data quality assessments in a timely manner and to address the shortcomings identified in those assessments, the problems of data validity and reliability identified in this report could have been corrected. For these reasons, we make the following recommendation.

Recommendation 4. *We recommend that USAID/Mozambique provide training to mission staff on the requirements for data quality assessments outlined in the Automated Directives System and develop policies and procedures to make copies of data quality assessments easily accessible to mission staff and implementing partners.*

Site Visits Did Not Incorporate Data Quality Testing. Although the malaria team had conducted some site visits, it had not documented its efforts to verify data validity and reliability during those visits. According to mission officials, the failure to conduct and document data quality testing resulted from competing priorities during site visits—for example, the need to focus on activity implementation and examine the quality of services provided.

Without active monitoring through regular site visits and data verification, the mission did not always have reasonable assurance that data used for performance-based decision making and for reporting were valid and reliable. A process to monitor data quality in conjunction with regular site visits could have identified documentation and reporting shortcomings, as well as specific problems with commodity storage and distribution and quality of indoor residual spraying data previously discussed in this report. To improve the data-monitoring aspect of site visits, we make the following recommendation.

Recommendation 5. *We recommend that USAID/Mozambique develop and implement a schedule to conduct periodic site visits that entail data quality testing and verification, and document the results of those visits.*

EVALUATION OF MANAGEMENT COMMENTS

In its response to the draft audit report, USAID/Mozambique agreed with a number of recommendations and provided general comments on several issues. On the basis of these comments, we made changes to the report, including the deletion of a section from the draft report entitled “Antimalarial Drugs Not Dispensed in Accordance with National Malaria Policy.” Subsequent communications with the mission confirmed that although newly updated Government of Mozambique policy requires “confirmation of suspected malaria cases prior to prescribing medication,” given the general lack of laboratory facilities throughout Mozambique, clinicians are still allowed to treat for malaria without confirming its diagnosis. As a result of this clarification and deletion of this section from the report, we removed Recommendations 2 and 3 and renumbered Recommendations 4–7 as Recommendations 2–5. Management comments on Recommendations 1–5 are summarized below, followed by the audit team’s evaluation of management comments.

Regarding Recommendation 1, the mission agreed to develop and implement a plan with milestones to provide training or technical assistance to appropriate staff at warehouse and health-care facilities that store and dispense USAID-funded antimalarial drugs and insecticide-treated bed nets so that staff are capable of properly maintaining inventory records and managing stocks effectively. The mission’s response included the caveat that USAID consigns and transfers ownership of most malaria commodities to the Government of Mozambique. The mission stated that a logistics management information system, supported by USAID partners, was being implemented, while training modules and standard operating procedures on good warehouse management—including receiving, managing stock, counting inventory, dispatching, and conducting inventory investigations—have been developed. Also, JSI/Deliver, one of the mission’s implementing partners, was scheduled to conduct a 2-day workshop for training of trainers on the management and control of drugs in the framework of strengthening monitoring and evaluation. This workshop was to be carried out by the end of 2010 and to include USAID implementing partners. In subsequent correspondence, the mission stated that training on the logistics management information system had been conducted in all ten provinces and that pilot implementation of the system would take place in February 2011. On the basis of management’s comments, a management decision has been reached on Recommendation 1.

Regarding Recommendation 2 (Recommendation 4 in the draft report), the mission stated that it had already instituted a data quality assessment audit of the indoor residual spraying project based on preliminary audit recommendations. As a result, the mission, in collaboration with the National Malaria Control Program and other partners, is implementing the following: (1) establishing an efficient data flow system that will carry accurate and timely information from the spray operator level to the provincial level with minimum opportunities for error; (2) ensuring the availability of the necessary human and material resources; (3) developing a password-protected data security and storage system for spray data; (4) introducing new data collection and entry tools that will promote efficiency at all levels of the monitoring and evaluation system and enable PMI and the National Malaria Control Program to track performance in real time throughout the spray round; (5) enhancing supervision of data recording and entry to ensure accuracy; and (6) improving filing and archiving to facilitate data tracing and verification. These activities were completed by the end of December 2010, as confirmed telephonically in January

2011. On the basis of management's comments and completion of recommended training, a management decision has been reached and final action taken on Recommendation 2.

Regarding Recommendation 3 (Recommendation 5 in the draft audit report), the mission agreed to establish and implement written procedures to ensure that program results reported by implementing partners in quarterly and annual reports are consistent with the mission's performance indicators and annual performance report. Specifically, the mission stated that its new performance management plan, approved September 2010, reflects this audit recommendation. Furthermore, the mission stated that it continues to collaborate with implementing partners to improve data quality through initiatives such as a standardized reporting template. On the basis of management's comments and the supporting documentation provided, a management decision has been reached and final action has been taken on Recommendation 3.

Regarding Recommendation 4 (Recommendation 6 in the draft audit report), the mission agreed to provide training to mission staff on the requirements for data quality assessments outlined in the Automated Directives System and to develop policies and procedures to make copies of data quality assessments easily accessible to mission staff and implementing partners. To implement this recommendation, the mission stated that its newly approved performance management plan contains a schedule for conducting data quality assessments on each individual indicator. Additionally, the mission hired a monitoring and evaluation consultant to provide additional support in conducting data quality assessments for all performance indicators. Furthermore, the mission's monitoring and evaluation specialist conducted a workshop on data quality assessment on October 20, 2010, for all assistance and contracting officer's technical representatives and activity managers so that they are better prepared to effectively implement these roles and responsibilities. In additional correspondence, the mission stated that all data quality assessments are currently made available and accessible to USAID/Mozambique staff on the mission's shared drive. In addition, the monitoring and evaluation specialist has started sending e-mails with hyperlinks to all staff when data quality assessments are updated. On the basis of management's comments, additional correspondence, and supporting documentation, a management decision has been reached and final action taken on Recommendation 4.

Regarding Recommendation 5 (Recommendation 7 in the draft audit report), the mission agreed to develop and implement a schedule to conduct periodic site visits that entail data quality testing and verification, and will document the results of those visits. The mission stated that the new performance management plan incorporates conducting data quality assessment of each PMI indicator during site visits when appropriate and feasible, as well as documenting the results in trip reports. A quarterly site visit schedule has been compiled and will continue to be updated. Additionally, the newly hired site monitoring and evaluation specialist will be responsible for verifying that periodic site visits happen and are documented and reported adequately. On the basis of management's comments and the supporting documentation provided, a management decision has been reached and final action has been taken on Recommendation 5.

SCOPE AND METHODOLOGY

Scope

The Office of Inspector General conducted this performance audit in accordance with generally accepted government auditing standards.¹⁹ 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, based on our audit objective. This objective was to determine whether USAID/Mozambique's President's Malaria Initiative was achieving its main goal of reducing malaria mortality by 50 percent by the year 2010, compared with pre-PMI levels, by reaching 85 percent of the most vulnerable groups—children under the age of 5 and pregnant women—with preventive and therapeutic malaria interventions. We believe that the evidence obtained provides that reasonable basis. Audit fieldwork was conducted at USAID/Mozambique and at selected offices and activity sites of the implementing partners in Mozambique from May 24 to June 11, 2010, and covered fiscal year 2009 PMI activities.

To implement the program, USAID/Mozambique had agreements with six major partners in fiscal year 2009. The audit covered the activities that contributed most of the reported results and were implemented by the three main partners active through September 30, 2009: (1) Population Services International, under a cooperative agreement for \$31 million from April 2006 to August 2011, (2) RTI International, through participation in a centrally funded indefinite quantity contract for \$3.6 million in fiscal year 2009 (of which \$3.2 million supported indoor residual spraying activities), and (3) John Snow, Inc., through participation in a centrally funded task order for \$10.9 million in fiscal year 2009 (of which \$4.3 million was budgeted to procure, ship, and support the distribution of antimalarial drugs). The budget for fiscal year 2009 malaria activities in Mozambique was \$19.8 million.

The three intervention areas covered by the audit—indoor residual spraying, insecticide-treated bed nets, and case management (antimalarial drugs)—constituted roughly 83 percent of the estimated budget for PMI activities in 2009. The audit, in general, involved (1) validating reported results related to these three key interventions, and (2) reviewing and assessing relevant management controls.

In planning and performing the audit, the audit team assessed management controls related to management review, proper execution of transactions and events, and reporting of performance measures and indicators. Specifically, the audit evaluated the following documents prepared by USAID/Mozambique:

- Fiscal year 2009 malaria operational plan
- Fiscal year 2009 full performance plan and report
- Performance management plan for Strategic Objective 8, "Increased Use of Child Survival and Reproductive Health Services in Target Areas," approved in fiscal year 2007 and in use until approval of the new draft plan

¹⁹ *Government Auditing Standards*, July 2007 Revision (GAO-07-731G).

- May 2010 draft version of the performance management plan for the health assistance objective, which is linked to the country assistance strategy for fiscal years 2009–14
- Site visit reports
- Implementing partner agreements
- Certification required under the Federal Managers' Financial Integrity Act of 1982²⁰

The audit also reviewed other sources, including:

- Implementing partner work plans and progress reports
- *The President's Malaria Initiative Fourth Annual Report—Sustaining Momentum Against Malaria: Saving Lives in Africa*, April 2010
- *The Performance Management Toolkit*
- Warehouse and health-care facility registers and documents

The audit team conducted fieldwork at USAID/Mozambique from May 24 to June 11, 2010. Based in Maputo, we visited the main offices of Population Services International, RTI International, and John Snow, Inc.; the central warehouse; and four health-care facilities. We conducted extensive fieldwork in Zambézia Province in central Mozambique and made field visits to RTI International's field office, three district spray operation offices, two warehouses, and nine health-care facilities. We also visited the Ministry of Health's provincial office and warehouses in Xai-Xai in Gaza Province.

During fieldwork, the audit team interviewed key USAID/Mozambique personnel, implementing partners, warehouse and health-care facility staff, and officials of the Government of Mozambique to assess, in general, the status of program implementation, the effectiveness of controls, and the oversight of program activities.

Methodology

To determine whether the program was achieving its main goals, the audit team initially reviewed targets and reported results for the mission's five malaria program performance indicators for fiscal year 2009 (Appendix III). The audit team also interviewed mission staff and reviewed relevant program documents, such as the *President's Malaria Initiative Fourth Annual Report* and USAID/Mozambique's fiscal year 2009 malaria operational plan, to gain an understanding of the program as it is implemented in Mozambique.

As shown in Appendix III, we selected three indicators for this audit: (1) number of houses sprayed with indoor residual spraying with U.S. Government (USG) support, (2) number of insecticide-treated bed nets distributed or sold with USG funds, and (3) number of artemisinin-based combination treatments purchased and distributed through USG-support. For these indicators, the audit team judgmentally selected sites in Mozambique to test performance

²⁰ Public Law 97–255, as codified in 31 U.S.C. 3512.

results by comparing reported information with source documents. We selected sites and sample sizes based on time, resource, and geographic constraints. Because we used judgmental sampling, the results of these tests cannot be projected to the entire populations.

The auditors reviewed the agreements, progress reports, and work plans of the major implementing partners that contributed results to the tested indicators. The auditors also reviewed applicable laws, regulations, and USAID policies and procedures pertaining to USAID/Mozambique's malaria program—including the Federal Managers' Financial Integrity Act of 1982 certification, Automated Directives System Chapters 202 and 203, and supplemental ADS guidance.

MANAGEMENT COMMENTS



19 October 2010

MEMORANDUM

TO: Christine M. Byrne, CPA/s, Regional Inspector General/Pretoria

FROM: Teresa McGhie, Acting Mission Director /s/

SUBJECT: Audit of USAID/Mozambique's Implementation of the President's Malaria Initiative (Report No. 4-656-10-00X-P)

This memorandum transmits USAID/Mozambique's response and comment to the Draft Report on Audit of USAID/Mozambique's Implementation of the President's Malaria Initiative (PMI) sent to the Mission on October 1, 2010. USAID/Mozambique's Mission appreciates receipt of the draft report and the opportunity to offer clarifications and our response. We request that our response be included in its entirety in the final report of the audit.

The overarching goal of PMI in Mozambique is to reduce malaria-related mortality by 50% through reaching 85% of women and children in the country with selected preventive and therapeutic evidence based interventions. It is important to note that the PMI program represents by far the most dramatic scale up of malaria interventions in Mozambican history and requires a paradigm shift in how the Mozambican Government and people perceive, control, treat, and manage malaria. USAID/Mozambique is implementing an ambitious plan to change decades old procedures, practices, and beliefs and is on track to reach PMI goals by the end of the intended five full years of funding and implementation. USAID/Mozambique recognizes that we still face many challenges, but we are encouraged by data from 2007 Malaria Indicator Survey (MIS), 2008 Multiple Indicator Cluster Survey (MICS) and the 2009 AIDS Indicator Survey (INSIDA) that show significant improvement in malaria indicators in Mozambique.²¹

²¹ Page 10-12: President's Malaria Initiative: Malaria Operational Plan –FY 11, Mozambique

The unprecedented pace of scale up and vast scope of change being implemented under PMI can not be underestimated and provide useful context to explain some of the challenges we face in reaching our goals. USAID/Mozambique works closely with the Ministry of Health (MOH) and the National Malaria Control Program (NMCP) to implement malaria interventions in coordination with national and international partners. The Mission and PMI have placed a high priority on accountability and transparency, and will continue to support the Government of Mozambique's (GOM) monitoring and evaluation of malaria control efforts. It is important to note that the GOM leads the national malaria control program. USAID is working through the GOM's existing health and supply chain system to ensure broad reach and widespread availability of services to achieve long-term sustainability.

We appreciate the time and effort that the Regional Inspector General (RIG) devoted to conduct the audit, as well as the professionalism of the RIG staff. We value audits and consider them as an opportunity to improve USAID health programming. The Draft Report on Audit of USAID/Mozambique's Implementation of PMI raises many valid and important points and areas of the program that require strengthening. USAID/Mozambique would like to clarify and provide context for several issues outlined in the resultant findings and recommendations.

I. GENERAL COMMENTS AND CLARIFICATIONS

PMI goal timeframe:

PMI was launched in June 2005 as a five-year, \$1.2 billion U.S. Government (USG) initiative to scale up malaria prevention and treatment measures across 15 high-burden countries in sub-Saharan Africa. Annual funding for PMI increased dramatically from \$30 million in FY2006 to \$500 million in FY2010. Mozambique joined the five-year PMI program (FY 2006-2011) in its second year and its first year of funding was FY2007. The fifth year of PMI funding in Mozambique will be FY 2011 funds which, due to delays in the budgeting and allocation process, will effectively be implemented during the 2012 fiscal year.

This audit was conducted from May 24th to June 11th 2010, when activities in Mozambique were being implemented with FY2009 funding; FY2010 funds had not yet been disbursed. Thus, the progress being assessed at the time of the audit represents less than three full years of implementation of activities, totaling \$56.538 million (FY2007, FY2008, and partial FY2009 funding). Given the large plus-up in FY2010 funds released September 30, 2010, it is premature to measure PMI progress towards five year goals when the implementation period is only about halfway completed. The FY2007-FY2009 funding received thus far only represents about 60% of the total funding authorized for PMI over the course of its first four years. The Mission would like to respectfully request that the statement regarding PMI funding availability, timeline and progress towards achievement of five year goals be revised to reflect the facts stated above. (*Summary results section, p.1.*)

Data and reporting issues:

The Mission agrees that data quality in the PMI/Mozambique program needs to be strengthened, and is continually striving to improve data collection and data validation methods used to measure the PMI program in Mozambique. Below are explanations as to how USAID/Mozambique is addressing the issues concerning data quality.

Donor collaboration in data collection: The Mission uses a variety of data sources, both funded by PMI and those funded by other donors to evaluate progress towards achievement of PMI goals. Population based surveys provide the most accurate analysis of progress, but are also the most expensive method of data collection. PMI uses the best practice of collaborating with other donors to maximize funding for these important data sources. Examples include the UNICEF's Multiple Indicator Cluster Survey (MICS) in evaluating PMI's impact indicators. The Mission funded the malaria indicator survey (MIS) in 2007 that provided the baseline data for the PMI's indicators. In addition, with funding from the US Government (USG), the Cause of Death Survey (INCAM) and AIDS Indicator Survey (INSIDA) were carried out respectively in 2007/2008 and 2009. Moreover, the USG is funding the Demographic and Health Survey (DHS) that includes a malaria module, with preliminary data expected by end of 2011. This will provide data to compare against the baseline data of the 2007 MIS. We would respectfully like to request that the statement "the Mission relied primarily on studies funded by other sources" be removed from the text. (p. 2, paragraph 2)

Indoor Residual Spraying (IRS) program data collection: USAID/Mozambique places a high importance on data quality and is putting in place measures to improve quality of data throughout the PMI and entire health portfolio. In particular, PMI is implementing improved data quality and verification systems and procedures to improve the reliability of data. Specific methods are discussed in greater detail under our response to recommendation number four.

The PMI Indoor Residual Spraying program collected data from over a half million houses. A small margin of error in a data collection effort on this scale would not be considered significant for program monitoring. The auditors state that, "we selected sites and sample sizes based on time, resource and geographic constraints. Because we used judgmental sampling, the results of these tests can not be projected to the entire populations." It is therefore critical that the findings be put into context. The mission would like to respectfully recommend that "Spraying Results Were Not Valid, Reliable, or Reported Accurately" be replaced with "In Sites Visited, Spraying Results Were Not Valid, Reliable, or Reported Accurately" (p. 8).

PMI reporting data: USAID/Mozambique had an approved strategy in place covering the period from FY2004-FY2010, while the Country Assistance Strategy (CAS) was in the final stages of approval (CAS FY2009-FY2014). The Country Strategic Plan from FY2004-FY2010 was in effect and then was amended by the Strategic Statement in April 2006. Both were approved by Washington. A Performance Management Plan (PMP) was in place for Health that covered Malaria activities for the same period. Although FY 2009 targets in the PMP were not set, indicators and targets were set and reported to Washington in the PPR and the PMI Annual Reports and were reported by implementing partners.

During this transition period from one strategy to the next, the old PMPs were still valid. Following the approval of CAS in May 2009, new assistance objectives were approved and new PMPs were developed that included targets from the period of the strategy and actual performance data. The new Health PMP was approved in September 2010; it complies with the ADS and PMP toolkit including performance targets and actual performance data from FY2009 through FY2014.

Because of differences in the period covered by the PMI Annual Report (January to December), the Performance Plan and Report and Portfolio Implementation Review, the Mission is unclear of the source documentation that was used for these findings to provide their feedback. We would like the opportunity to review the source of documentation and discuss the discrepancy so that we can respond. (p. 10-11) Given the above, the Mission would like to respectfully request that the report rephrase the statement “Performance Results Were Not Reported Accurately” to “Performance Results Reporting Needs Improvement” (p. 10); and rephrase “Performance Information Was Not Managed Adequately” to “Performance Information Management Needs Improvement.” (p. 11)

Antimalarial Drug Distribution:

The Mission is appreciative that the auditors raise the challenges associated with commodity distribution and would like to provide context to explain situation in Mozambique. Commodity management and distribution are critical to the success of PMI and all USAID health programming. Both PMI and the President’s Emergency Plan for AIDS Relief (PEPFAR) are supporting the improvement of the capacity of the Central de Medicamentos e Artigos Médicos (CMAM) to manage stock at the central, provincial and district warehouses. A particular area of interest on the part of MOH and CMAM is to focus on strengthening provincial level capacity to manage commodities from central warehouses down to service delivery points. PMI and PEPFAR jointly hired provincial pharmacy advisors to increase technical assistance and oversight throughout each of Mozambique’s 10 provinces. The U.S. Government is also working to implement a nationwide logistic management information system (LMIS) to improve management and accountability in all provinces.

USAID/Mozambique ensures transportation of malaria commodities to the provincial warehouses. From there, as the audit notes, the Mission consigns and transfers ownership of the commodities to the Government of Mozambique in order to ensure widespread availability of commodities through the public health facilities and promote longer-term sustainability.

Given the context described above, USAID/Mozambique would like to respectfully request that the statement “Commodity management was inadequate” be changed to “Management of malaria commodities, including Insecticide-Treated Bed Nets and Antimalarial Drugs needs improvement” (p. 4). The mission believes that this statement more accurately reflects the situation in Mozambique.

The Mission would also like to request the removal of the following statement: “Antimalarial Drugs Were Not Distributed in Accordance With National Malaria Policy” (p. 7). Currently, Mozambique does not have a National Malaria Policy. However, there are National Malaria Case Management Guidelines. It should be noted that in Mozambique, first and second line antimalarial drugs are procured and distributed according to the national malaria treatment guidelines (normas de tratamento). Further, the findings are addressing diagnostic issues. At the present time, the national malaria treatment guidelines do not require that antimalarial drugs be given only for parasitologically confirmed malaria cases.

Diagnostics:

It is highly recommended to treat test-confirmed malaria cases with Artemisinin-based Combination Therapy (ACT- Coartem) to conform to the 2009 guidelines of the World Health Organization (WHO); the Mozambique national malaria treatment guidelines do not require this practice in all instances. Not all countries have the capacity or resources to implement this WHO recommendation immediately. It is important to understand that it would be highly unethical to deny treatment to people presenting with malaria symptoms where diagnostic services are unavailable. Mozambique did not have sufficient quantities of RDTs and microscopy support to rigorously apply this rule. We are actively working with the national program to implement this procedure.

Mozambique does not currently have an approved National Malaria Policy. The Mozambique National Malaria Control Program does have treatment guidelines and training manuals that are guiding the implementation of the new strategies to introduce rapid diagnostic tests and Coartem. The training manual developed for the rollout of Coartem in 2009²² suggested treatment for test-confirmed (by microscopy or malaria rapid diagnostic kits -RDTs) malaria cases. However, the current treatment guidelines (normas de manejo dos casos de malária em moçambique²³) do not require that antimalarial drugs be given only for test-confirmed malaria cases. PMI is working closely with the National Malaria Control Program to update the current guidelines and finalize the National Malaria Policy. The implementation of these new procedures is ongoing and is requiring intensive training throughout the country to change the decades old practice of immediate treatment of all suspected cases of malaria.

Given the above, we propose to remove the statement “Antimalarial drugs not dispensed in accordance with the national malaria policy”. (p. 7)

Drug resistance: The development of drug resistance is a very complicated, multi-factorial situation and is a problem for any anti-infective agent. WHO recommends that the best way to avoid promotion of antimalarial drug resistance is through the use of a combination therapy, and to avoid the use of artemisinin based immunotherapy. PMI is only providing artemether-lumefantrine (Coartem^R) which is a combination therapy, not a monotherapy. Therefore PMI is promoting a drug combination and implementation practices to reduce the development of drug resistance in Mozambique.

II. USAID/MOZAMBIQUE RESPONSE TO AUDIT RECOMMENDATIONS

Recommendation No. 1: We recommend that USAID/Mozambique develop and implement a plan with milestones to provide training or technical assistance to appropriate warehouse and health-care facility staff that store and dispense USAID-funded antimalarial drugs and insecticide-treated bed nets so that staff are capable of properly maintaining inventory records and managing stocks effectively.

²² MISAU 2009: Guião do formador formação sobre manejo de casos de malária

²³ MISAU 2005: Normas de manejo dos casos de malária em Moçambique

The Mission concurs with Recommendation No.1 with the caveat that USAID consigns and transfers ownership of most malaria commodities to the Government of Mozambique. This is because the public health system in Mozambique has the widest reach in country, particularly to remote and underserved areas. The public sector supply chain is complex and faces serious capacity challenges. USAID does not track all commodities at all stages because it would be cost prohibitive to do so. Instead, USAID works with the government to develop capacity and strengthen the system. For example, a logistics management information system, supported by USAID partners, is being implemented in the warehouses all the way to the district level. Training modules and Standard Operating Procedures (SOPs) on Good Warehouse Management, including picking and receiving, management of stock status, stock counting inventory, dispatching, and inventory investigations have been developed. JSI/DELIVER will conduct a two-day workshop for training of trainers in procedures on the management and control of drugs in the framework of strengthening the capacity of monitoring and evaluation. This workshop is planned to be carried out by the end of 2010 and will include USAID implementing partners. The workshop will cover all commodities, including malaria commodities. Warehouse staff have been and will continue to be trained to properly maintain inventory records and manage stocks effectively. Healthcare staff will also be trained during supportive supervision visits in inventory and stock management. Implementing partners have been working with provinces to train health worker and health-care facility staff in logistics management. USAID will continue to work with implementing partners and ensure commodity management training is incorporated into their workplans.

JSI/DELIVER has been supporting training in logistics management through the Presidential Malaria Initiative (PMI) funds. Although the training was focused on management of malaria medicines, the training includes information and training in general logistics management. Lessons-learned from this training are now being applied across all areas of health commodity management.

Recommendation No. 2: *We recommend that USAID/Mozambique develop and implement a plan to provide refresher training or technical assistance on the importance of malaria testing to all health-care facilities that dispense USAID-funded antimalarial drugs.*

The Mission concurs with Recommendation No. 2, as relevant activities are included in FY10 and FY11 Malaria Operational Plans. In addition, during the rollout of the first line malaria treatment, more than 12,000 health care workers were trained in malaria treatment as well as antimalarial stock management. Currently, supportive supervision, refresher training and malaria microscopy training plans are being developed by USAID partners and will start being implemented in the first quarter of 2011.

Recommendation No. 3: *We recommend that USAID/Mozambique provide training, technical and operational assistance to the National Malaria Control Program to develop and implement a plan to provide all health-care facilities with tools to comply with Mozambique's national malaria policy.*

The Malaria Case Management Guidelines have been approved by the Minister of Health. USAID/Mozambique, through the PMI, will print copies for distribution to all health facilities. In addition, the activities in Recommendation No. 2 will cover largely the concerns identified under Recommendation No. 3. Therefore, the Mission requests removal of this Recommendation No. 3 in the final report.

Recommendation No. 4: *We recommend that USAID/Mozambique develop and implement a plan with milestones to train appropriate staff of the indoor residual spraying program to record data, maintain source documents, maintain data systems, and report program results properly.*

Based on the preliminary audit recommendations, the PMI instituted a Data Quality Assessment (DQA) audit on the IRS project. During the 2010 IRS campaign and in future, PMI will embark on making improvements in the information management system. PMI in collaboration with the NMCP, DPS in Zambezia and other partners is implementing the following²⁴:

- Establish an efficient data flow system that will carry accurate and timely information from the spray operator level to the provincial level with minimum opportunities for error;
- Ensure the availability of the necessary human and material resources. Computers were placed in each district. An Access database has been developed and installed in each district to capture the daily spray operator reports;
- Develop a data security and storage system for future reference of IRS data. Every computer is password protected, and the computer rooms are only accessible to authorized personnel;
- Introduce new data collection and entry tools that will promote efficiency at all levels of the M&E system and enable PMI and NMCP to track performance in real-time throughout the spray round. A routine data quality assurance system will be implemented with spot-checks, data verification and tracing. A household IRS card has been introduced and linked to daily spray operator card. This system will significantly improve tracing and verification down to the beneficiary level;
- Conduct training and supervision of data recording and data entry for building capacity in IRS M&E and to ensure accuracy of data at all levels;
- Improve filing and archiving to facilitate data tracing and verification. Metal filing cabinets with locks have been put in each district office to store IRS documentation (spray operator daily spray cards, team leader daily spray cards, supervisor checklists, etc). Each office has both USB storage devices and CD-ROMs for backing up electronic data each day.

Recommendation No. 5: *We recommend that USAID/Mozambique establish and implement written procedures to ensure that program results reported by implementing partners in quarterly and annual reports are consistent with the mission's performance indicators and annual performance report.*

²⁴ RTI 2010: Indoor Residual Spraying 2 (IRS-2) - Task Order One Mozambique 2010 Work Plan & Budget. Submitted on August 31st, 2010

The Mission concurs with this recommendation as the approved PMP on September 2010 reflects this audit recommendation. The Mission has instituted an annual process whereby data collection methodology and target setting is reviewed for accuracy prior to the submission of the Performance Plan and Review (PPR). USAID/Mozambique continues to work with implementing partners to strengthen data management by providing ongoing training in performance indicators, collections methodology and steps to ensure reports are consistent with Mission's performance indicators and annual performance reporting. All implementing partners are informed and are required to report results on a quarterly basis using standardized reporting template. USAID's Performance Management Plan (PMP), which incorporates the PMI activities and other health activities (HIV/AIDS, family planning and reproductive health, maternal and child health, tuberculosis, etc.), contains 50 performance indicators which assess program outcomes. The PMP notes for every indicator the source of and responsibility for collection of the performance data. In many, but not all cases, the source and responsibility include implementing partners. The PMP has been disseminated current partners and will be disseminated to future implementing partners once awards are completed, and will be monitored throughout the implementation period by AOTRs/COTRs as well as reviewed by senior USAID management during semi-annual portfolio reviews.

Based on the action taken above to address this recommendation and given that no further action is currently required, the Mission requests closure of this recommendation.

Recommendation No. 6: *We recommend that USAID/Mozambique provide training to mission staff on the requirements for data quality assessments outlined in the Automated Directives System and develop policies and procedures to make data quality assessments easily accessible to mission staff and implementing partners*

The Mission concurs with this recommendation. The newly approved PMP (September 2010) includes all PMI indicators being reported to USAID/Washington in the Mission's Performance Plan and Report (PPR) on an annual basis. The appropriate AOTR/COTR or Activity Manager will conduct data Quality Assessments on each individual indicator according to the schedule in the PMP.

The Mission has hired a monitoring and evaluation consultant to provide additional support to AOTRs/COTRs and Activity Managers to conduct data quality assessment for all performance indicators including those under the President's Malaria Initiative and the indicators that were not subjected to data quality assessment during last two years will be included into this assessment.

The Mission's Monitoring and Evaluation Specialist has just conducted (October 20, 2010) a mini-workshop in data quality assessment for all AOTRs/COTRs and Activity Managers so they are better prepared to effectively implement these roles and responsibilities. A follow-up workshop is scheduled to train the remaining group of staff who missed the first session and follow-up work with each AOTR/COTR will occur to verify that all DQAs are completed in an adequate manner following the ADS.

All DQAs shall be completed by November 30, 2010, and can be forwarded to the Regional Inspector General/Pretoria to close this recommendation.

Based on the action taken above to address this recommendation and given that no further action is currently required, the Mission requests that this Recommendation No. 6 be closed upon issuance of the final report.

Recommendation No. 7: *We recommend that USAID/Mozambique develop and implement a schedule to conduct periodic site visits that entail data quality testing and verification, and document the results of those visits.*

The Mission concurs with this recommendation. The new PMP approved in September 2010 includes a plan to conduct data quality assurance of each PMI indicator during sites visits when appropriate and feasible as well as document the results in trip reports. Currently the Mission has issued two Mission Orders (Site Visit Reporting dated October 27, 2007 and Performance Monitoring and Evaluation dated August 8, 2009) containing a site visit checklist and a section that defines specific procedures regarding the completion of data quality testing and verification during periodic field trips. A quarterly site visit schedule has already been compiled for the past two quarters and will continue to be maintained. This quarterly site visit schedule will continue to be managed and updated. Additionally, the newly hired Site Monitoring and Evaluation Specialist will be responsible for verifying that periodic site visits happen and are documented and reported adequately.

Based on the actions taken above to address this recommendation and given that no further action is currently required, the Mission requests that this Recommendation No. 7 be closed upon issuance of the final report.

Performance Indicators

Fiscal Year (FY) 2009 Reported Results and Number of Items Tested

Performance Indicator	FY 2009 Reported Result	Number of Items Tested
1 Number of insecticide-treated bed nets purchased with U.S. Government (USG) funds*	1,000,000	Not tested
2 Number of houses sprayed with indoor residual spraying with USG support	563,473 [†]	35,317 (28,050 confirmed)
3 Number of insecticide-treated bed nets distributed [‡] or sold with USG funds	1,000,000	44,080 (44,080 confirmed)
4 Number of artemisinin-based combination treatments purchased and distributed [‡] through USG-support	2,400,000	689,760 (687,760 confirmed)
5 Number of people trained with USG funds in malaria treatment or prevention*	14,600	Not tested

Source: FY 2009 full performance plan and report.

* Not audited.

[†] The mission reported 563,473 in the FY 2009 full performance plan and report based on RTI International's preliminary results. According to the Chief of Party, RTI International updated the reported number to 571,194 following a data verification process that occurred after the mission's report was issued.

[‡] Antimalarial drugs and insecticide-treated bed nets were considered to be distributed once they were received and inventoried at the provincial level.

Outcome Indicators

Compared With Overall Fiscal Year (FY) 2010 Targets

Indicator	Malaria Indicator Survey FY 2007 %	Multiple Indicator Cluster Survey FY 2008 %	Available Results FY 2009 %	President's Malaria Initiative FY 2010 Targets %
Proportion of households with at least one insecticide-treated net (ITN)	15.8	30.7	50.0 [*]	90.0
Proportion of children under 5 who slept under an ITN the previous night	6.7	22.8	33.3 [*]	85.0
Proportion of pregnant women who slept under an ITN the previous night	7.3	---	---	85.0
Proportion of women who received two or more doses of intermittent preventive treatment for pregnant women during their last pregnancy in the last 2 years	16.2	43.1	33.0 [*]	85.0
Proportion of targeted houses adequately sprayed with a residual insecticide in the last 12 months [†]	52.4	---	47.8 [‡]	85.0
Proportion of children under 5 with fever in the last 2 weeks who received treatment with an antimalarial within 24 hours of onset of fever	17.6	22.7	---	85.0
Proportion of children under 5 with fever in the last 2 weeks who received treatment with an artemisinin-based combination treatment within 24 hours of onset of fever	4.5	---	---	85.0

Source: FY 2011 Malaria Operational Plan.

Note: Data in this table have not been audited.

^{*} Data from PSI Mozambique's long-lasting insecticide-treated net (LLIN) TRaC 2009 study.

[†] RTI International, USAID/Mozambique's implementing partner for indoor residual spraying activities, reported 82 percent and 109 percent coverage of targeted households in the geographic area supported by USAID/Mozambique during the 2008 and 2009 spray seasons, respectively. Figures reported in the table refer to national indoor residual spraying coverage, in line with the PMI policy to measure progress that results from the combined efforts of host-country governments and other partners involved in malaria control.

[‡] Data from an AIDS Indicator Survey (INSIDA) carried out in July 2009.

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