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Malaria Logistics Highlights

Improving Monitoring and Supervision at the Health Facility Level Through End-Use Verification and Mobile Technology

USAID | DELIVER PROJECT 2009

USAID | DELIVER PROJECT staff conduct an interview using EpiSurveyor at a health facility in Zambia in November 2009.

"Ghana Health Services are very enthusiastic about this application of monitoring and data collection. For us it facilitates 'last mile' information gathering, and helps programming and interventions."
Albert Netty, Program Officer, Ghana.

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Malaria programs have an inherent set of challenges that require close monitoring and supervision in order to ensure their success. The World Health Organization (WHO) has stated that malaria should be treated with an artemisinin-based combination therapy (ACT) within 24 hours of the onset of symptoms to avoid progression to severe malaria, which is associated with a high case fatality rate.[1] Thus, it is imperative for malaria programs to avoid stockouts of ACTs and to act quickly when stock availability problems arise. Beyond issues of availability, the case management of malaria also requires close oversight, because the protocol for treatment and for diagnosis has undergone significant revisions in recent years, with clinical staff members being asked to change long-standing behaviors. Robust monitoring and supervision efforts can ensure that health workers are well-trained, that they follow established protocol for the case management of malaria, and that they maintain supplies of ACTs.

End-Use Verification: A Monitoring and Supervision Tool

Under the direction of the President's Malaria Initiative (PMI) and in collaboration with the Strengthening Pharmaceutical Systems (SPS) project, the USAID | DELIVER PROJECT has designed and implemented a malaria program monitoring activity known as "End-Use Verification." The purpose of the end-use activity is to assess the health of the malaria supply chain, to determine the availability of key malaria products at the health facility level, and

[1] See WHO, 2010, *Guidelines for the Treatment of Malaria*, 2nd ed. Geneva. 2010.

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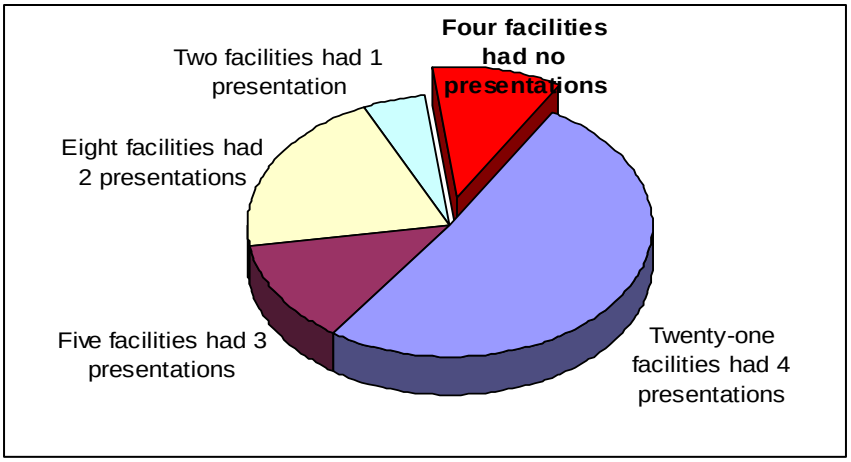
to provide a snapshot of how malaria is being diagnosed and treated. The activity strengthens existing health facility monitoring efforts by training staff members from the Ministries of Health (MOH) and National Malaria Control Program (NMCP) so they know how to collect data through interviews, through record reviews, and by examining storage areas.

Under the end-use activity, data collectors visit at least 20 health facilities each quarter, with a sample intended to provide a snapshot of the entire antimalarial supply chain—from the central level down to the lowest level of health facilities. The information gathered from these visits is used to calculate indicators such as

- the months of stock available
- the reporting rates
- the percentage of facilities that had experienced a significant stockout (lasting longer than three days) during the preceding six months

One important indicator developed for the activity is the "Index of Availability of ACTs." (See figure 1.) Unlike most medicines, ACTs are often packaged in multiple presentations of the same formulation (e.g., the same pill of artemether-lumefantrine is packaged in four different treatment quantities in order to ensure that the correct dosage is provided for each patient). The provider knows to prescribe the yellow packaging to an infant, the blue to a child, and so on. When a provider runs out of one presentation of an ACT, that person will often continue to treat patients by combining or cutting the remaining versions that are on hand in order to provide the right number of tablets to the patient. To get a true representation of whether or not a facility is unable to treat with an ACT because of stockouts, the Index of Availability of ACTs identifies those facilities that have stocked out of all presentations of the ACT at the same time, and thus the facilities are unable to dispense the medicine altogether.

Figure 1. Index of Availability



Mobile Technology in Monitoring and Supervision

Because the End-Use Verification activity is intended to provide rapid, actionable information that can be used by decisionmakers to address problems with the management of malaria products, it is crucial to quickly analyze the information gathered by the data collectors. To facilitate this analysis, the USAID | DELIVER PROJECT has implemented data collection through use of mobile phones enabled with EpiSurveyor. Created by DataDyne, EpiSurveyor is a simple software suite that easily allows the user to create surveys through an online interface, to download the survey to a mobile phone, to collect data at health facilities, and to upload the data gathered from a database onto a remote server where it can be accessed online. During a round of the End-Use activity in 2009, a pilot of the technology in Ghana showed that using EpiSurveyor to gather data significantly decreased the amount of time needed to input and analyze data because the software could automate database creation, data transfer, and calculation of the indicators. The approach was subsequently adopted as the recommended protocol for the End-Use activity.

Conclusion

Although, as a result of its size and scope, the End-Use Activity is not a full monitoring and supervision scheme for a country's malaria program, the USAID | DELIVER PROJECT is helping to address the need for such activities by providing training and experience to MOH and NMCP staff members about important and useful indicators and technology. The project also seeks to have a lasting effect on how monitoring and supervision efforts for malaria programs are implemented so such programs can help improve the availability of ACTs and malaria case management.

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