

Mobile Phone Survey Software Supports Malaria Medicines Supply Chain

Background

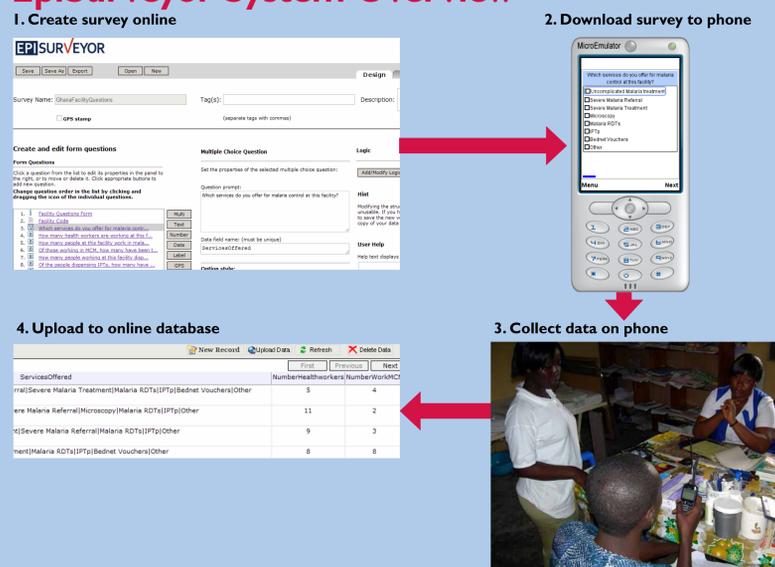
The President's Malaria Initiative (PMI) End-Use Verification Activity is a quarterly health facility survey designed to provide quick, actionable information concerning the health of the malaria supply chain. The survey also provides a snapshot of how malaria is diagnosed and treated at lower level health facilities. The findings are used to help guide decision-making and policy preparation. Findings are shared with PMI at the central level, as well as the Ministry of Health and in-country partners working to combat malaria.

Survey Software: EpiSurveyor

EpiSurveyor is an award winning software suite which allows the user to:

- 1) Create surveys via an online interface
- 2) Download the survey to a mobile phone
- 3) Collect data at health facilities
- 4) Upload the data gathered back to a remote server, where it can be accessed online.

EpiSurveyor System Overview

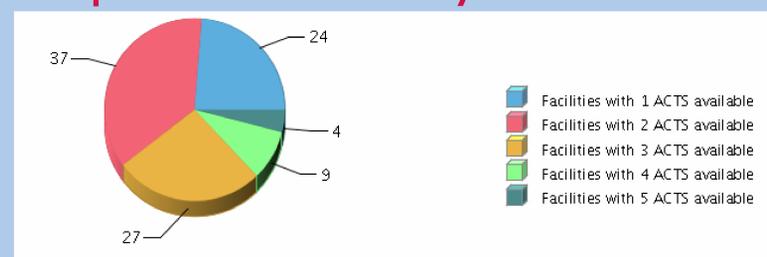


The USAID | DELIVER PROJECT worked with DataDyne to design and implement several new features to the EpiSurveyor software for use with the End-Use Verification Activity.

These new features included the ability to back data up to a removable microSD card or to a laptop, reducing the likelihood of losing any data gathered in rural areas where an internet connection is unlikely. Crucially, a set of automated analysis tools on the EpiSurveyor website was also added. These tools can provide, for example, malaria case management analysis, or an index of availability of ACTs (artemisinin-based combination therapies, a class of antimalarial medicines).



Sample Index of Availability of ACTs*

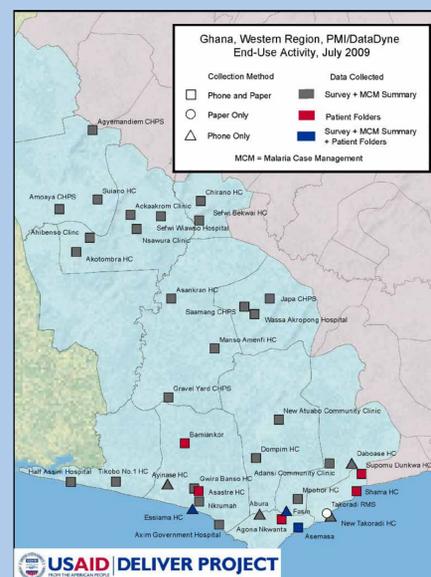


* Artemisinin-Based Combination Therapies

EpiSurveyor Pilot

To conduct an appropriate assessment of the viability of using EpiSurveyor to replace paper-based data collection, a pilot of the new technology was carried out in Ghana in July 2009. The pilot was designed to assess three quantitative and qualitative aspects of using the software on mobile phones:

- Data quality
- Time
- Ease of Use



Findings

Data Quality

Compared the data quality between what was uploaded to the online database from the mobile phones with what was gathered on paper and entered in an Excel database

		A	B	C	D	E	F	G	H	I	J	K	L	M	N
Tester 1	EpiSurveyor	1	0	0	0	1	0	0	1	0	1	1	0	0	1
	Excel	1	0	0	0	1	0	0	1	0	1	1	0	0	0
Tester 2	EpiSurveyor	1	1	1	1	1	1	0	1	1	1	0	1	0	1
	Excel	1	1	1	1	1	1	0	1	1	1	0	1	0	0
Tester 3	EpiSurveyor	1	1	0	0	0	1	0	1	1	1	0	0	0	0
	Excel	1	1	0	0	0	1	0	1	1	1	0	0	0	0
Tester 4	EpiSurveyor	0	0	1	1	1	1	1	1	0	1	0	0	0	0
	Excel	0	0	1	1	1	1	1	1	1	1	0	1	0	0

The results indicate that there was very close parity between the EpiSurveyor database and the data gathered by paper and input by hand. From the 412 different fields compared, 6 discrepancies were discovered, which represented a 1.5% difference between the two methods.

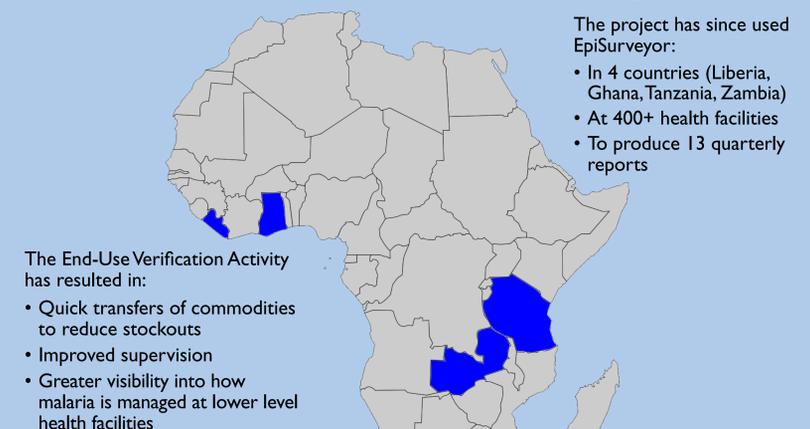
Times at Health Facilities

Paper Teams	Average Time	EpiSurveyor Teams	Average Time
Team A (5 facilities)	2:57	Team E (4 facilities)	1:57
Team B (5 facilities)	2:58	Team F (2 facilities)	1:57
Team C (6 facilities)	2:25	Overall	1:57
Team D (7 facilities)	1:30		
Overall	2:22		

Across the board, when asked whether they would choose to replace paper-based data collection with EpiSurveyor, every respondent replied that they would. Perhaps more telling, the in-country staff who received training on the phones and participated in data collection requested that they be allowed to continue using the phones during the next quarter.

Results

Based on these findings, the decision was made to use EpiSurveyor in all countries engaged in the PMI End-Use Verification Activity.



The End-Use Verification Activity has resulted in:

- Quick transfers of commodities to reduce stockouts
- Improved supervision
- Greater visibility into how malaria is managed at lower level health facilities

Additional countries will begin using EpiSurveyor to carry out the End-Use Activity in 2011