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Rapid assessment of malaria surveillance system at district level in Mozambique

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Completeness and accuracy of data were suboptimal at district level. The frequency of data quality assurance visits did not show clear improvements across all quality indicators.

Introduction

Core components of Mozambique’s Malaria Strategic Plan 2017–2022 included strengthening its malaria surveillance strategy (MSS) and addressing bottlenecks in data quality for evidence-based decision-making. As such, an evaluation of the MSS was conducted at the district level in 2022, following a three-year surveillance-strengthening project, which aimed to operationalise a functional MSS that is responsive to all transmission strata by strengthening data quality and fostering a data use and a data-to-action culture.

Methods

- A cross-sectional survey was conducted based on the World Health Organization’s Malaria Surveillance System Rapid Assessment Toolkit.
- The survey included a quantitative analysis of performance, which consisted of a retrospective analysis of District Health Information System 2 (DHIS2) malaria data from September to November 2023 in 28 districts. The analysis assessed measures of completeness, timeliness and accuracy.
- The selection of districts was based on the level of intervention deployed during the surveillance strengthening project: Standard (Std.), Standard Plus (Std.+) and Intensive (Int.) (Table 1).
- District malaria programme focal points completed a questionnaire regarding data usage, context, infrastructure, process and behaviour.

Results

- The average timeliness of reporting was 96 percent, exceeding the 95 percent monthly target. The Int. package districts had the highest average timeliness rate at 100 percent (95 percent confidence interval [95% CI]: 79.8–100, p=0.005) compared to the average timeliness rate in the Std. package districts of 92 percent (95% CI: 81.8–98.4, p=0.005).
- Overall, completeness was reported as 36 percent, significantly below the target of 100 percent. While completeness was notably high in Std+ districts with 99.2 percent (95% CI: 61.3–92.4, p=0.005), it was only eight percent in Int. districts (95% CI: 28.1–71.8, p=0.005).
- The average accuracy rate was 53 percent. The accuracy rate was highest in the Int. package districts with 66.0 percent (95% CI: 45.1–82.3, p=0.005) compared with the Std+ package average accuracy rate of 43 percent (95% CI: 29.3–66.3, p=0.005). No performance indicator demonstrated a clear improvement according to the number of data quality assurance (DQA) visits received in either intervention package.

Conclusion

Despite timely reporting of data, the MSS at district level in Mozambique faces issues with providing complete and accurate information. The frequency of DQA and the distribution of MSS data to health facilities did not show clear improvements across all quality indicators. A primary limitation is the availability of computers for accessing DHIS2. These findings warrant further research of the MSS in Mozambique.

Figure 1: Average performance per package

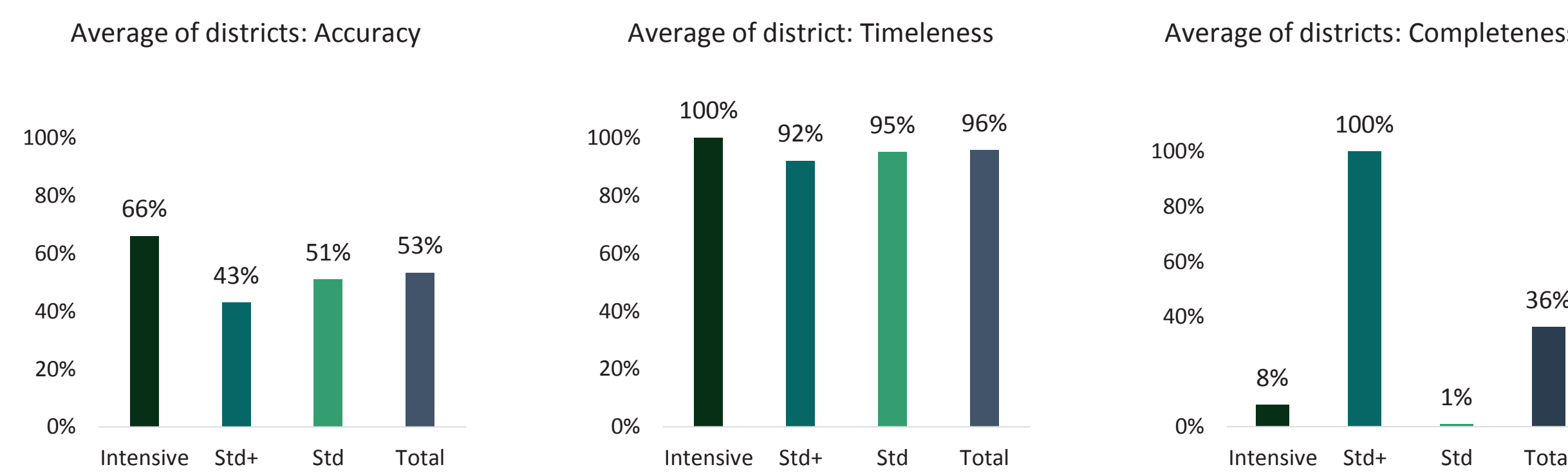


Figure 2.1: DQA visits versus results from performance at Std+ package

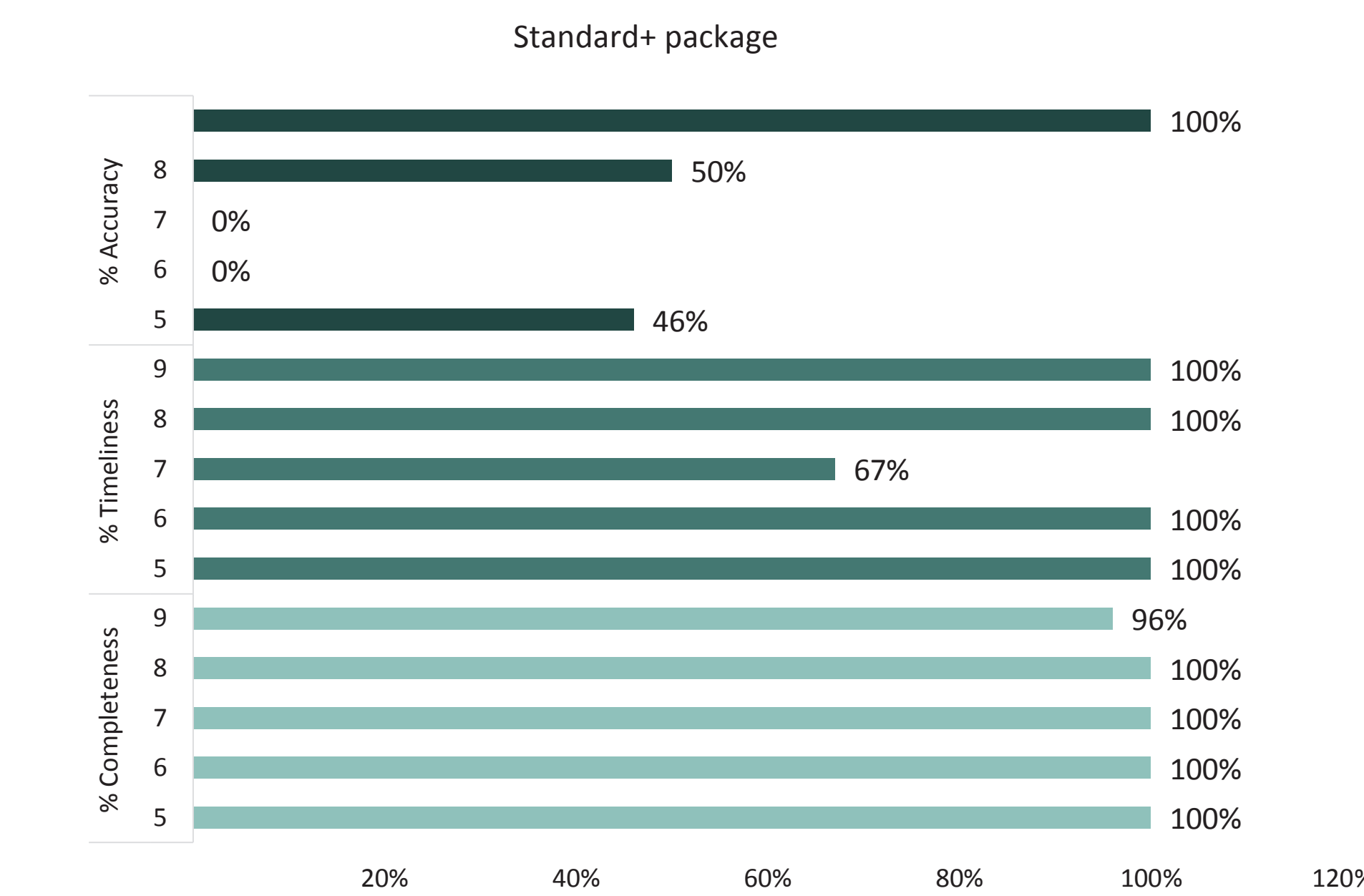


Figure 2.2: DQA visits versus results from performance at Int. package

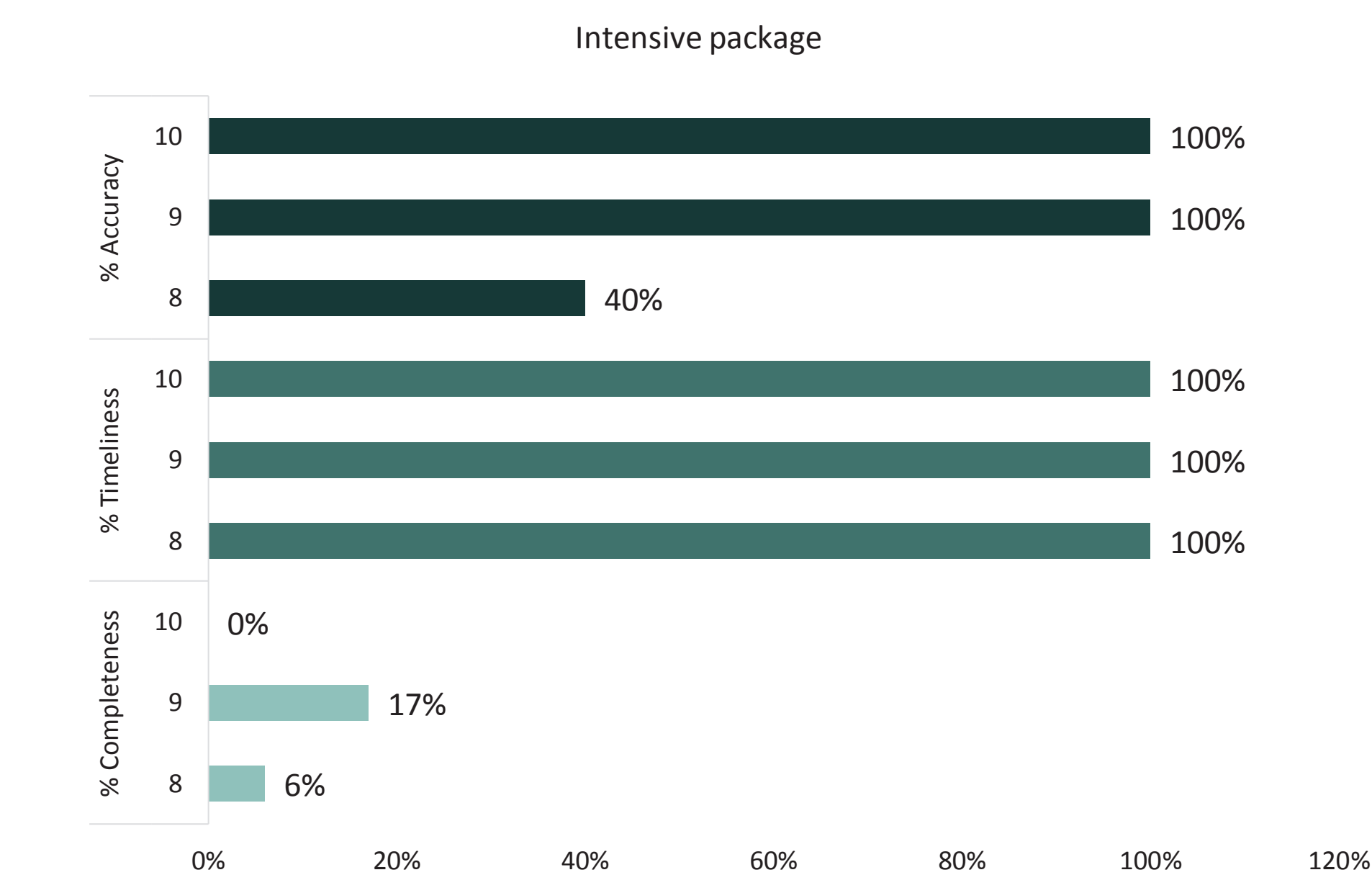


Table 1: Districts included in the rapid assessment according to previous interventions received under the surveillance strengthening programme

Number of included districts	Intervention package received	Activities implemented as part of package	Median DQA visits
12	Std.	National malaria control programme (NCMP) standard activities implemented across all districts	Not Applicable
9	Std. +	Standard NMCP activities plus additional supportive supervision, DQA visits and roll out of an integrated malaria information storage system (iMISS) at district level	7 (5–9)
7	Int.	Std.+ activities plus additional (on average) DQA visits and iMISS rollout at the health facility level	8 (8–10)

Table 2: Context and infrastructure, techniques and process, and behaviour results

Parameter	Result
Context and infrastructure	<ul style="list-style-type: none"> 100 percent of districts reported access to DHIS2 and a designated technician responsible for managing data in the system. 85 percent of districts have a procedure manual for the processing and analysing data at the district level.
Techniques and processes	<ul style="list-style-type: none"> 76 percent of respondents consider the paper-based monthly malaria summary forms used to collect data simple to complete. 100 percent of respondents reported that entering data into the DHIS2 was uncomplicated. 95 percent of respondents reported limitations or restrictions in accessing DHIS2, with computer availability a key limitation.
Behaviour	<ul style="list-style-type: none"> 70 percent of respondents reported acceptability to participate in and execute surveillance system activities. 92.6 percent of respondents reported that the system recognises their efforts in performing their jobs to a high standard and that their suggestions for enhancing the system are implemented. 25.9 percent respondents were knowledgeable about the malaria case definition. Their perceived ability to perform basic data analysis interpretation was approximately 93 percent, which was similar to their self-reported capacity during testing, averaging 90 percent.



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