



# Advancing localised decisions: Sustainable pathways to improved data quality and data to action in Mozambique

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Lessons from year 1 implementation

## Key learning

- Accuracy requires combined efforts: no single intervention ensures quality; consistent coordination across tools and actors drives accuracy.
- Context matters: data quality challenges vary by province and district; solutions must be locally tailored.
- Sustainability depends on routine practices: regular supervision and data review meetings sustain quality beyond project support.

## Background

Malaria surveillance systems are only as strong as the data that go into them. Accurate, complete and timely data are essential for effective, data-informed decision-making and for targeted responses to malaria outbreaks at local and regional levels.

In some regions of Mozambique, the accuracy of malaria data was being skewed by under- and over-reporting of malaria cases from health facilities leading to [inaccurate allocation of resources and staff](#). To address this, Malaria Consortium partnered with the Mozambique National Malaria Control Programme (NMCP) between 2019 and 2022 to implement a comprehensive package of malaria surveillance strengthening tools through the Malaria Surveillance Strengthening project.<sup>[1]</sup> Regular data quality assessments (DQAs), data review meetings, supportive supervision and self-assessments increased data accuracy by 49 percent at health-facility level and by 40 percent across project districts, alongside improvements in data use for district planning.<sup>[1]</sup> However, as these activities were resource intensive, their sustainability and long-term impact were uncertain once they transitioned to national ownership.

Malaria Consortium’s Local Decisions Mozambique project has been assessing whether the data-quality and data-use gains achieved between 2019 and 2022 have been sustained 18–24 months after the end of project funding. Between March 2024 and June 2025, the initial evaluation phase took place at health facilities in eight districts selected for their involvement in the 2019–2022 project. Lessons learnt during the evaluation phase of this project have highlighted some key considerations for ensuring the continued impact and sustainability of these interventions. The results from this evaluation will inform the development of scalable, context-appropriate strategies to strengthen routine malaria data quality and use for sustainable, evidence-based decision-making.<sup>[2]</sup>

## Project activities

During phase 1 of the Local Decisions – MZ project, Malaria Consortium worked in partnership with the NMCP to engage key stakeholders at national and subnational levels, with subsequent project phases involving collaborative data review and development of data-strengthening solutions. The project team carried out data review and qualitative interviews as part of a baseline assessment of malaria data quality and use at 92 health facilities across eight districts within the four target provinces: Inhambane, Niassa, Maputo and Maputo City.

Following the baseline assessment, pre-workshops took place at provincial/district level in all four target provinces, followed by a national workshop in June 2025. At pre-workshops, participants conducted collaborative review of baseline data and validation of preliminary findings to identify challenges and propose locally tailored solutions. During the national workshop, participants analysed the results of the evaluation, identified challenges, and validated and aligned proposed interventions to enhance surveillance and data utilisation.

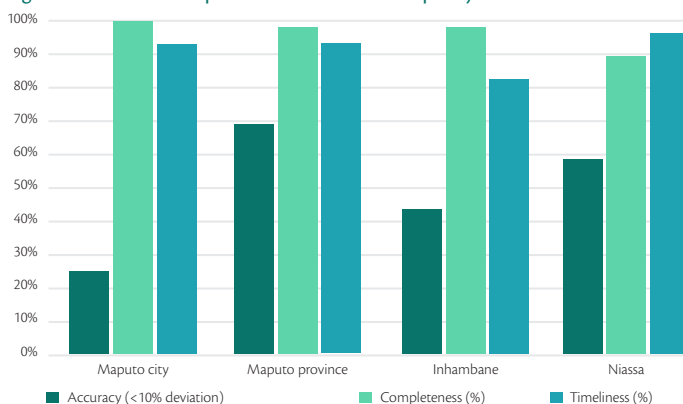
## Results

Year 1 implementation achieved strong stakeholder engagement. Stakeholders’ assessment of data quality revealed context-specific variations in the completeness, timeliness and accuracy of data, reinforcing the need for tailored solutions (see Figure 1).

### Baseline assessment findings

- Maputo province achieved 98 percent completeness, 93 percent timeliness and 69 percent data accuracy with <10 percent deviation from expected.
- Niassa province achieved 96 percent timeliness and 89 percent completeness, but only 58 percent data accuracy.
- Maputo City and Inhambane province reported 100 percent and 98 percent completeness, but 25 percent and 43 percent data accuracy, respectively.
- In Nihamankulo district, Maputo City, although 60 percent of staff undertook self-DQA, the accuracy rate was 0 percent.
- While data quality was generally perceived as synonymous with accuracy, interviewees rarely emphasised the importance of completeness, timeliness and data use. Knowledge assessments focus on task completion rather than data quality.

Figure 1. Province-level performance across data quality dimensions



### Sustainability insights from data quality analysis

- Data accuracy improved significantly during the Malaria Surveillance Strengthening Project (from 45.3 percent to 84 percent). However, it consistently emerged as the weakest dimension in the data quality trend analysis, having declined to 54.7 percent post-intervention (-29.3 percentage points).
- Similar patterns were observed in completeness and timeliness, with both indicators showing gains during the intervention phase and subsequent declines post-intervention (see Table 1).

Table 1. Province-level changes in data quality dimensions based on DQA results (during versus post-intervention)

Dimension	Pre-intervention 2019 (%)	During intervention 2020–22 (%)	Post-intervention 2024–25 (%)	Change (during vs post-intervention)
Accuracy	45.3	84.0	54.7	-29.3%
Completeness	95.7	100	88.6	-11.4%
Timeliness	97.0	94.0	86.0	-8%

# Lessons learnt

## 1. Multilevel stakeholder engagement ensures broad ownership and co-development of sustainable, context-specific solutions

All eight target districts were successfully engaged in the baseline data quality assessment, despite the post-election period and the political instability that coincided with the data-collection phase. Successful assessment was driven by:

- early and continuous engagement with stakeholders at national and subnational levels, ensuring alignment and support even in a difficult context
- a flexible and inclusive engagement strategy, notably the two-step stakeholder engagement model (provincial/district pre-workshops plus a national workshop), which allowed local actors to stay involved and committed
- strong coordination with district health leadership and project teams, enabling data collection to proceed, even where formal engagement was delayed.

Variations in data quality across provinces and districts indicate that challenges are highly context dependent. During qualitative interviews, most health professionals exhibited strong motivation to care for patients and acknowledged the importance of data quality. However, this was undermined by heavy workloads, occasional salary delays, the need to purchase essential materials with personal resources, poor infrastructure and weak connectivity, alongside reliance on other sectors for transport. Interventions that are implemented uniformly risk overlooking these local constraints.

District and province level pre-workshops strengthened the capacity of provincial and district teams to identify data quality challenges and to develop context-specific solutions. A national level workshop helped to foster a critical and participatory analysis of the evaluation results. Key stakeholders, particularly NMCP leadership, were actively engaged in identifying major challenges with data accuracy and validation, supervision, training and staff capacity, as well as local coordination and leadership, data use and review culture. Participants validated and aligned proposed sustainable interventions to enhance surveillance and data utilisation.

## 2. While local coordination and supervision through self-assessment and routine visits are critical, data accuracy depends on multiple interacting factors

Not every facility has a dedicated person responsible for managing and validating malaria data, which weakens coordination, accountability and ultimately the quality of the data.

Insufficient malaria focal points, alongside gaps in DQA, likely contributed to the very low data quality observed in Nihamankulo district (Maputo City), despite high levels of staff self-assessment. Districts with active malaria focal points carrying out routine data verification and triangulation activities at health facility and district level, coupled with consistent DQA or self-assessment practices, showed better data accuracy and completeness. Local leadership and continuous oversight remain key drivers of improvement.

No single intervention — whether self-DQA, malaria focal points, DQA visits or the availability of register books — can alone ensure accurate data. The combined and consistent application of these approaches drives higher levels of accuracy. We successfully applied and validated an integrated quality assurance model in Maputo Province, where a combination of routine self-DQA, regular DQA visits, strong supervision and full focal point coverage resulted in the highest data accuracy and most consistent performance.

## 3. Data quality dimensions are not always aligned

While some districts demonstrated strong performance in completeness or timeliness of data, they continued to struggle with accuracy. The qualitative assessment revealed that, although data quality was generally perceived as synonymous with accuracy, interviewees rarely emphasised the importance of completeness, timeliness and data use. Improvements in one dimension do not automatically transfer to others.

Where we identified gaps in data quality, we made specific operational adjustments to address these. In Niassa and Inhambane provinces, adaptive planning helped to maintain coverage despite constraints, and political adaptation in Niassa province ensured inclusion despite instability. In all provinces, applying the stakeholder engagement model and standardising data collection proved to be highly successful for improving data reliability.

## 4. Sustainability requires routine data review and institutional practices

Districts that maintained regular data review meetings showed steady improvement even when other factors (such as resources or staffing) fluctuated. Structured institutional routines foster sustainability.

## 5. Peer learning can promote quality improvement

A lack of structured training remains a systemic challenge, compounded by high staff turnover, limited involvement in DQAs and supervisory activities, and reliance on informal, on-the-job learning. Informal task-oriented checks of staff performance by supervisors tend to focus on completion of reporting tasks rather than assessing data quality competence. Districts that shared experiences and best practices with peers showed measurable gains in accuracy and reporting consistency. Peer-to-peer exchanges foster motivation, ownership and mutual accountability.



Project staff carry out a DQA visit at a health facility in Maputo province

# Recommendations

## 1. Engage stakeholders at local, regional and national levels in co-creation of tailored interventions and adaptation of resource allocation to local realities

Strengthen the capacity of teams to use data from self-DQA and supervision to identify context-specific challenges to data quality and develop tailored data quality action plans for each province and district. Engage key stakeholders at national level to explore challenges, align interventions, and enhance surveillance and data use.

## 2. Strengthen local coordination and supervision through self-assessment and routine visits, as part of a multifaceted approach to enhance data accuracy

Institutionalise the role of malaria focal points within district health teams and ensure they receive technical and managerial training. Promote routine data review visits and feedback loops between health facilities and districts to maintain accountability.

Adopt an integrated quality assurance model that combines supervision, self-assessment and regular DQA visits. Strengthen coordination between programme and health information teams to ensure these mechanisms operate simultaneously and reinforce one another.

## 3. Identify context-specific data quality dimensions

Adopt a comprehensive monitoring dashboard that tracks all data quality dimensions (accuracy, completeness, timeliness, consistency). Tailor supportive supervision and mentorship to address the weakest dimensions identified per district.

## 4. Ensure sustainability through routine data review and institutional practices

Embed monthly data review meetings within district and provincial work plans and include them in performance monitoring frameworks. Encourage cross-departmental participation (malaria, M&E, health information system) to promote shared ownership of data quality.

## 5. Promote improvement through peer learning

Facilitate inter-district learning exchanges and peer review sessions to replicate successful practices. Document and disseminate local innovations through briefs and review meetings.

# References

1. Malaria Consortium. Strengthening malaria surveillance for data-driven decision making in Mozambique: June 2019 to December 2022. London, UK: Malaria Consortium; 2023. Available from: [www.malariaconsortium.org/resources/strengthening-malaria-surveillance-for-data-driven-decision-making-in-mozambique-june-2019-to-december-2022](http://www.malariaconsortium.org/resources/strengthening-malaria-surveillance-for-data-driven-decision-making-in-mozambique-june-2019-to-december-2022)
2. Malaria Consortium. Advancing local decisions in Mozambique: Sustainable pathways to improved data quality and data to action. London, UK: Malaria Consortium; 2024. Available from: [www.malariaconsortium.org/resources/advancing-local-decisions-in-mozambique](http://www.malariaconsortium.org/resources/advancing-local-decisions-in-mozambique)

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Cover image: Project staff carry out a DQA visit at a health facility in Niassa province

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