Sustaining the data-to-action transition in Mozambique

Lessons learnt from the third year of strengthening malaria surveillance

Key learning

- Sending regular automated reports to users and developing matrices to guide data discussions can help grow trust in, and increase the use of, the country's integrated malaria information storage system for decision-making.

- Including data quality assurance (DQA) tools in the iMISS supportive supervision module has allowed provincial and district staff to follow up swiftly on potential data accuracy issues at the health facilities.

- Social and behaviour change communication tools can support data quality improvements. Our innovative self-DQA tool allows health facility staff to audit their own data monthly, enhancing their reporting skills and ability to engage in data discussions.

Background

Mozambique remained the fourth largest contributor to the 241 million malaria cases reported globally in 2020.[1] To move towards elimination, the country is scaling up its surveillance activities to accurately measure the need for, and impact of, malaria prevention and control activities.

With support from the Bill & Melinda Gates Foundation, Malaria Consortium is collaborating closely with the National Malaria Control Programme (NMCP), Centro de Investigação em Saúde de Manhiça (CISM), Clinton Health Access Initiative (CHAI) and Goodbye Malaria to implement the three-year project Strengthening Malaria Surveillance for Data-driven Decision-making in Mozambique.

The project successfully rolled out an integrated malaria information storage system (iMISS) in year one,[2] and improved data quality and developed a data-to-action (D2A) culture in year two.[3] During the third year, the focus shifted to streamlining data quality assurance (DQA) activities, promoting the use of iMISS dashboards for decision-making and reviewing the outbreak investigation and response procedures. This learning brief reflects on the lessons learnt during the final year of implementation.

Project activities

Between June 2021 and May 2022, Malaria Consortium and project partners implemented a range of activities.

To improve data quality, we:

- conducted 518 DQA visits to 203 health facilities across 16 districts, corresponding to a total of 1,928 months of data reviewed

- carried out iMISS supervision visits in 89 districts across nine provinces to provide guidance to 318 technicians on data entry and dashboard navigation

- supported regular data review meetings led by provincial medical chiefs and district health directors to discuss the local epidemiological situation and address data quality issues

- co-chaired the Surveillance Technical Working Group, which focused on reviewing the outbreak investigation procedures, as well as including a vector control module and individual case notification forms in the iMISS

- monitored health facilities' supply of registration tools to prevent stock-outs.

To enhance the use of data for decision-making, we:

- facilitated 215 monthly D2A meetings at provincial and district levels, during which participants analysed epidemiological data, identified problems and designed action plans

- provided iMISS training to monitoring and evaluation focal points from all provinces and involved them in a troubleshooting session, the aim of which was to refine modules to further facilitate both data entry and data use

- expanded the social and behaviour change communication (SBCC) approach — rolled out in year two to improve data use at health facility and district levels through data quality contests and sharing best practices — with a self-DQA tool to further strengthen the shift to data-informed decision-making

- implemented REACT, a CISM-led study that assesses the feasibility of introducing reactive surveillance activities in two low-transmission areas in Maputo province. A separate insight brief[4] focuses on the lessons learnt from conducting this study.

Results

- Data accuracy improved significantly as a result of regular DQA visits, technical support and supportive supervision. While only 33 percent of health facilities reported accurate data at the start of the project, this increased to over 85 percent after five DQA visits.

- All districts and 90 percent of health facilities reported their monthly data to the iMISS. Nearly all health facilities submitted their reports on time.

- As a result of close monitoring by the NMCP, stock-outs of reporting tools dropped considerably, from 75 to only one percent of health facilities in seven districts.

- All project districts started implementing SBCC strategies at the health facility level to further improve data accuracy, data use and D2A.

Health worker from Manhala Health Unit supervising the pharmacy stock with iMISS platform

A health worker checks dashboards in the iMISS, Teles Health Unit, Inhambane

Lessons learnt

- Data accuracy improved with each round of DQA visits, highlighting the need for regular health facility visits to ensure long-term results. We integrated the DQA tool into the iMISS supportive supervision module to allow provincial and district staff to rapidly intervene if data quality were to worsen at a health facility.

- A lack of functioning tablets delayed some health facilities' submission of reports to the iMISS. To speed up the repair and replacement of damaged and lost devices, we developed a standard operating procedure (SOP). Various tablets have been replaced in Nhamatanda, Maxixe, Gondola and Cuamba districts since, ensuring consistent and reliable data reporting. This did not adversely affect the project costs.

- While data use and D2A improved noticeably at all levels, the use of iMISS dashboards for decision-making remains low among decision makers. This is because many of them still prefer paper registers over the new digital platform, which they find unfamiliar. We found that sending regular automated reports to users and developing matrices to guide data discussions based on iMISS data can help promote uptake by improving familiarity. Moreover, establishing dedicated technical teams that are able to deal with reported issues swiftly would guarantee reliable access to the platform and, therefore, help to gain users' trust.

- Regular monitoring showed that many health facilities were struggling with poor data quality. To address this issue, we introduced an innovative self-DQA tool through our SBCC approach, which facilitates sustained behaviour change by empowering individuals to critically analyse their own behaviours and adopt positive behaviours that support decision-making. By allowing health staff to evaluate their own performance monthly, they were able to correct their errors quickly and improve the quality of their data significantly. The activity also strengthened their capacity for data triangulation and data discussions.

- To motivate health facility staff to continue improving data quality, we challenged them through a data quality contest that rewarded the best-performing district. We also promoted an exchange of experiences to share best practices, by pairing up health facilities that had low data quality with high-performing ones. In this way, technicians quickly learned from their peers how to improve their self-DQA, and how to calculate and discuss statistical trends of health facility data.

- A high staff turnover at health facilities complicated the implementation of DQA activities, as new staff did not always receive the necessary surveillance training. To mitigate this issue, we are creating a step-by-step DQA manual to provide new employees with the knowledge they need to get started.

- Using the reactive surveillance approach, local authorities successfully identified an outbreak in Magude district. The subsequent investigation was delayed by three months, however, highlighting the need to streamline outbreak investigation and response procedures. We are currently trialling the iMISS Early Warning System, which will allow districts to effectively forecast outbreaks and ensure prompt action.

Recommendations

1. Send out weekly and monthly automated reports to alert iMISS users of new data visualisations, thus **increasing trust in, and usage of, iMISS dashboards for decision-making**. Designing matrices to guide data discussions can also improve platform uptake.

2. **Decentralise technical problem solving** by creating technical teams at the provincial level to address user-reported issues faster. With regular refresher trainings, technicians at all levels will be equipped to handle common issues locally, including data entry, synchronisation and visualisation challenges.

3. **Participate in high-level engagement and administrative measures** to facilitate the implementation of action plans drafted during DQA meetings.

4. Implement **SBCC activities** — such as data quality contests and exchange of experiences — to motivate health technicians to sustain high data quality.

5. Introduce SOPs to rapidly **repair or replace damaged or lost devices**, which are essential for the timely submission of reports.

6. Finetune operational procedures for outbreak identification and investigation, and ensure training to health workers at all levels, to **ensure outbreaks are accurately forecast, promptly investigated and effectively controlled**.

7. All health facilities should conduct **self-DQA activities**, which have proved to enhance data quality and strengthen capacity for data analysis.

8. Staff at provincial and district levels should **continuously monitor the quality of health facilities' reporting** and organise additional surveillance training as needed.

9. To further **increase the impact of DQA visits** and optimal use of resources, additional research is needed to determine the influence of operational factors, such as the frequency of and lag between visits, and a health facility's setting (rural/urban).

References

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