TECHNICAL BRIEF

Applying a Behavioral Lens to Malaria Service Delivery: Lessons Learned from the Democratic Republic of the Congo

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Introduction

Rationale for the Malaria Service Delivery Assessment Tool

District health teams and implementing partners frequently hear about potential service delivery concerns in specific health facilities. These concerns may emerge from field visits, communications with facility staff and community members, supportive supervision, health facility assessments, and/or routine data reviews. When such concerns emerge, a clear process for assessing their veracity and extent is needed so concrete actions and solutions can be identified, planned for, and applied. During a global stakeholder workshop convened in February 2021 to understand and articulate the gaps in existing malaria service delivery tools, stakeholders noted that none holistically examines the complex web of factors that influence service delivery with a behavioral lens. Moreover, such a process should allow district health teams and partners to uncover key contributing factors, prioritize their efforts, require minimal time and resource investments, and ensure that providers and facilities remain available to serve clients while such a tool is administered.

In response, Breakthrough ACTION developed a comprehensive Malaria Service Delivery Assessment Tool to help National Malaria Programs, district health teams, and implementing partners respond to signals of service delivery challenges in a timely, systematic, and holistic manner. The tool was co-designed to complement existing service delivery data collection and support tools that country programs already have in place. For example, supportive supervision visits may signal a recurring service delivery deficiency in a particular district or region. This tool could then be deployed to explore more deeply the factors that may be contributing to deficiencies and to offer recommendations to address them.

Purpose of this Brief

This brief describes the elements of this tool and its pilot test in the **Democratic Republic of the Congo** (DRC) in April 2023. The objective of the pilot was to field test and refine the tool to ensure questions are well understood and elicit open discussion, to streamline the content to minimize the impact on the health facility workflow, and to refine the on-site process to ensure it results in meaningful insights and recommendations that can be acted upon. The DRC pilot helped to illustrate a sample use case for how the Malaria Service Delivery Assessment Tool can be deployed by Ministries of Health, donors, or other partners who may be interested in gaining a deeper understanding of the malaria service delivery context in their country contexts. The intended audience for this document is potential tool users who are interested in learning more about the tool's implementation and what insights can be generated from it.

Tool Description

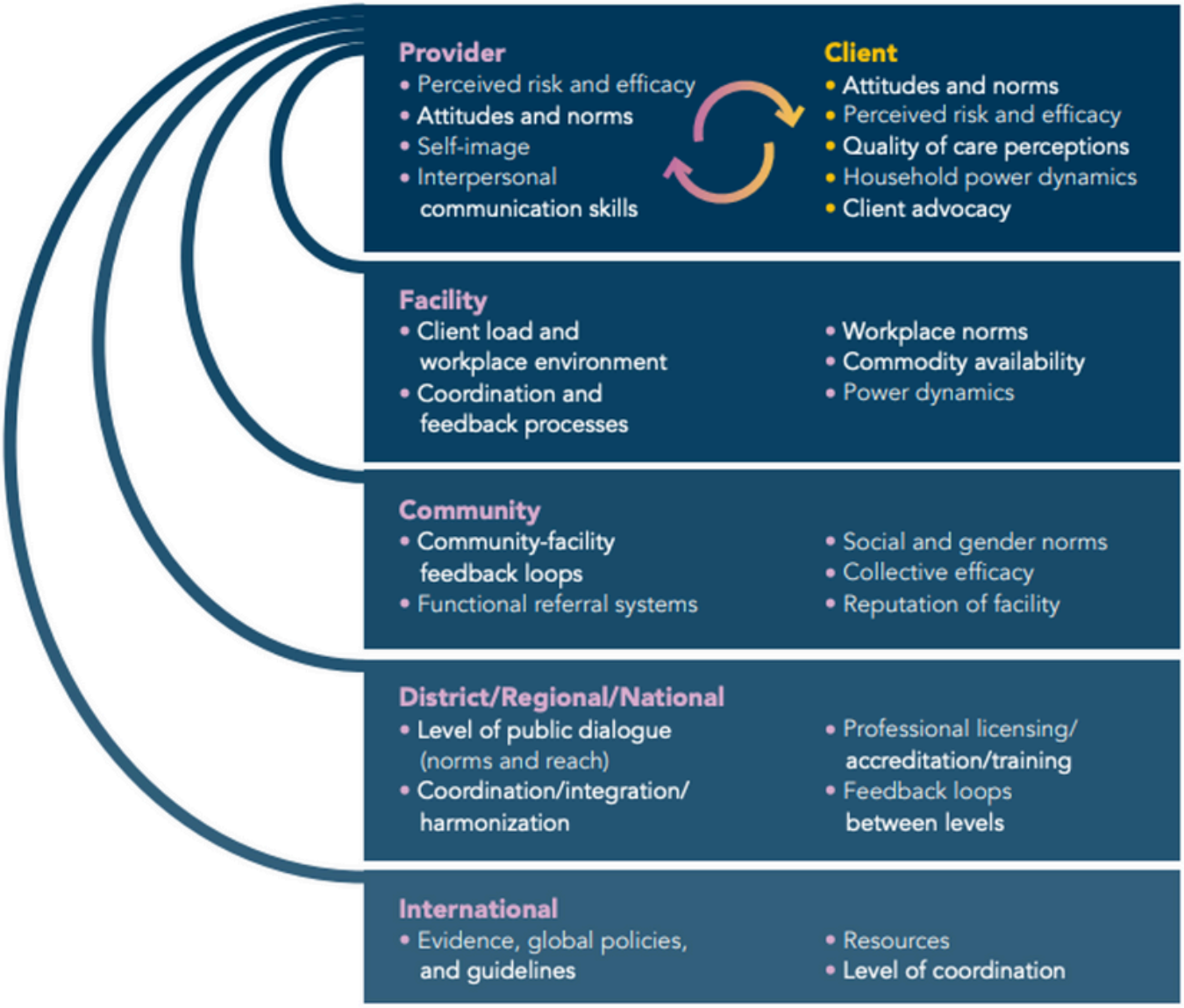
The behaviorally informed Malaria Service Delivery Assessment Tool guides users through a four-step process. The process supports providers and district health teams in identifying and prioritizing the key causes of service delivery challenges by incorporating behavioral considerations into a systems lens. In addition, it allows for a deeper understanding of how new policies or changing contexts are being interpreted at the facility level and impacting malaria service delivery. It may also be used to identify best practices contributing to high performance. The tool gathers perspectives and input from a variety of providers in each health facility and positions them as part of the inquiry and solution development process rather than as part of the problem. It combines structured qualitative interviews, observations, and document reviews across all departments to holistically approach each facility's context and barriers to provider adherence to malaria guidelines.

The tool covers service delivery topics related to health facility insecticide-treated net (ITN) distribution, fever assessment, malaria diagnostic testing, treatment, and malaria in pregnancy. The **socio-ecological model** (Figure 1) informed the tool, showing that services are influenced by many factors within and beyond providers that are interlinked and mutually reinforcing.

These may include provider and client knowledge and perceptions, backgrounds, and skills; provider workload and workflow; processes; norms; financial incentives/disincentives; documentation, reporting, and data use processes; power dynamics; commodity availability and management; feedback processes; training, coordination; and supervision within facilities and between facilities and higher levels, among others.

At the end of the site visit, the tool facilitates validating the observations made and the problems and factors identified. It also involves providers in solution generation and action planning while recognizing and characterizing systemic issues that merit follow-up beyond an individual facility.

Figure 1. The Malaria Service Delivery Tool was informed by the socio-ecological model, which shows that services are influenced by many interlinked and mutually reinforcing factors within and beyond providers.



Tool Uses

This tool may be used to:

- Follow up on partner reports or other anecdotal observations of service delivery issues, such as those from site visits or district health officer reports.
- Complement routine data quality assessments, a health facility survey, or malaria surveillance activities. While these assessments help identify problems, this tool can support districts and partners in obtaining a deeper understanding of the factors contributing to service delivery issues.
- Complement supportive supervision to further investigate causes of poor performance in select facilities. Alternatively, portions of this tool can be used during supportive supervision visits.
- Ensure facilities provide quality care in geographies where the population may be more vulnerable or where quality case management is particularly critical. For example, when a key intervention is withdrawn, during an environmental or humanitarian crisis, in an elimination context, or for a research platform.
- Investigate high-performing facilities to identify best practices that may be applied elsewhere.[1]

While the Malaria Service Delivery Tool is intended to provide facility-level insights, broader implementation may help to identify patterns in a region or country.[2]

[1] Using this tool to identify "positive deviants" or best practices for quality service delivery is a promising potential use case that has not yet been piloted. The tool may need additional modifications or guidance to serve this specific purpose. Since this tool is iteratively implemented, the authors hope to shape these recommendations in the future.

[2] As the tool has not yet been used this way, there is currently no guidance to inform selection of facilities and synthesis of data across facilities to identify patterns. As this tool is iteratively implemented, the authors hope to shape these recommendations in the future.

Tool Components

The tool follows a four-step process:

Figure 2. The four steps in the Malaria Service Delivery Assessment Tool

Pilot in the Democratic Republic of the Congo

Pilot's Objectives

Breakthrough ACTION and the **U.S. President's Malaria Initiative** (PMI) piloted the tool to:

1. Determine its effectiveness in systematically identifying factors impeding quality malaria service delivery and finding local solutions;
2. Assess the real-world time and effort required for implementation in a variety of facilities and what adaptations were needed for improvement;
3. Assess its ability to generate insights specific to each country for use by country-level actors.

The DRC was identified for the pilot based on interest from the **National Malaria Control Program** (NMCP) and Breakthrough ACTION's presence in-country. Breakthrough ACTION and the PMI DRC team collaborated with the NMCP, Ministry of Health, and other PMI implementing partners to conduct the pilot in six health facilities in two provinces in April 2023. The NMCP wished to understand whether providers were consistently adhering to fever diagnosis and treatment guidelines, accurately collecting and reporting data, and correctly managing malaria-related stock. The NMCP also wanted to identify the behavioral factors inhibiting facilities from doing so. Finally, the NMCP wanted to deploy the tool in a mix of PMI and Global Fund-supported regions to see if there were any differences in those facilities, including differences in public sector versus private facilities, both of which are supervised by the Ministry of Health. While routine supportive supervision occurs in many sites, many other facilities do not benefit from regular supervision visits, given limited funding to support such visits with frequency.

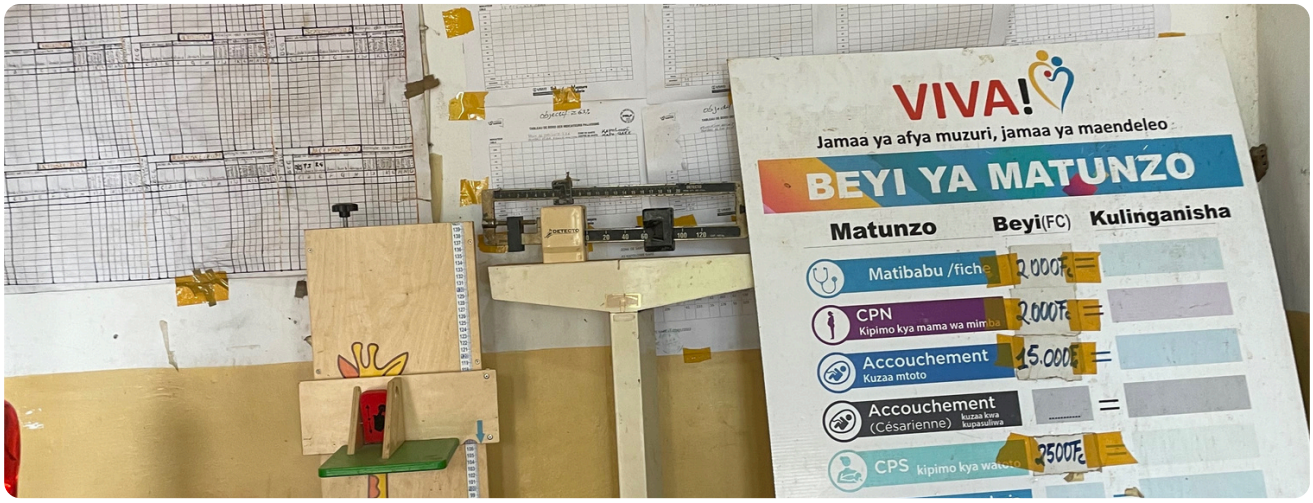
Pilot Implementation Process

Facility Selection

In alignment with step 1 of the Malaria Service Delivery Assessment Tool, the NMCP leveraged district-level monthly meetings to identify health facilities based on a routine review of malaria indicators. Health facilities whose data fell outside the expected ranges were flagged as needing further examination. The NMCP, with support from Breakthrough ACTION and in coordination with Measure Malaria, reviewed health management information system (HMIS) data from the previous twelve months to see whether the issue identified was a recurring challenge and relied on notes from previous supervision visits to identify those with the largest persistent challenges. Distance and safety concerns were also considered during the purposeful selection process.

The following anomalies spurred the selection of the facilities:

- **Case management:** Confirmed malaria cases exceeded those that tested positive by rapid diagnostic test (RDT) and microscopy, and/or the number of people treated for malaria was higher than the number of test-confirmed positive cases.
- **ITN distribution:** The number of issued ITNs exceeded the number of eligible clients (the number of first antenatal care (ANC) visits).
- **Malaria in pregnancy:** The proportion of pregnant women having received at least a second or third dose of sulfadoxine-pyrimethamine (SP) was comparatively low compared to other health centers.
- **Stockouts:** Health facilities with the most frequent shortages of malaria commodities or medicines were identified, as well as facilities that recorded stockouts but also reported treating all patients.



The second step in the tool involves the use of phone screenings of six health facilities to confirm whether a site should be prioritized for a visit or if there was a simple reporting error and to introduce the assessment to gauge whether they are open to a potential site visit. If facility representatives cannot be reached or satisfactorily explain the situation identified in the data, the facility may be prioritized for a visit following the phone screening. In the DRC, however, phone screenings were not conducted in quite the same way outlined in the tool. The data review revealed extensive and multiple service delivery gaps in facilities, so the phone screenings ultimately served as less of a screening tool and more to establish/introduce the site visits.

After reviewing potential sites, a mix of six health facilities was chosen across two provinces, Kongo Central and Haut Katanga. The selected facilities included a combination of public and private-non-for-profit health facilities as well as small health centers and larger provincial hospitals, including, as mentioned above, a mix of facilities that were supported by PMI or the Global Fund. Facilities were selected purposely, based on the performance criteria outlined above and to ensure representation from different facility types. All facilities receive commodities and supervision and are expected to report to the HMIS and follow national guidelines regarding malaria service provision and payments.

Team Composition

A multi-disciplinary team with experience in malaria service delivery and SBC with representatives from the national and province-level malaria programs, PMI, and Breakthrough ACTION was assembled. Two 1-hour orientations on the tools were conducted virtually and in phases with the NMCP. The tool's design prioritizes ease of use, so only a brief orientation was needed. The first orientation focused on the data review and screening steps before implementing those steps, and the second orientation focused on selecting facilities, implementing the site visit, and action planning steps. Site visits took place in April 2023.

While the tool itself was designed to be implemented by a small team of two to three people over a 2–4-hour (half-day) timeframe, a larger group was assembled for the orientation and pilot so all key stakeholders could see for themselves how it could be deployed and improved.

Site Visit Process and Duration

Each half-day site visit began with a brief meeting with the facility In Charge to introduce the team and the purpose of the visit. The activity was described neither as an assessment nor a supervision visit but rather to better understand how the NMCP could improve its support to facilities, further explaining that concerning patterns observed in facility data triggered the visit. The framing helped establish rapport, making clear that the team was keen to learn from the providers and hear their perspectives.

In Charges then selected one to three staff members responsible for patient consultations on fever case management or malaria in pregnancy to meet with team members. Representatives from the laboratory, pharmacy, and records units were also selected. One-on-one interviews were conducted with an interviewer, each provider, and a notetaker. When a provider's role stretched across multiple functions in a facility, they were interviewed on each function.

As designed, team members had different roles while conducting the site visits. The national NMCP representative and each provincial-level NMCP focal point assessed data concordance and completeness by reviewing registers against what was entered into HMIS monthly reports, while PMI and Breakthrough ACTION team members conducted interviews with providers, lab technicians, and pharmacists. Roles shifted in some site visits to ensure familiarity with each part of the tool on the part of the NMCP.

Each interview began with a brief consent before providers were asked open-ended questions about the processes involved in their work, from patient encounters through examinations, testing, diagnoses, prescriptions, administration of any treatment, and data recording practices. Similarly, laboratory technicians, pharmacy, and records staff discussed how processes such as resupply requests and documentation were done, the factors influencing those processes, and challenges with implementing feedback they have received in the past.

All team members then came together to triangulate the information collected and summarize their findings. The team concluded each half-day site visit with a synthesis of findings and a report out with all staff at each facility to verify if the team's findings matched the staff's lived experience. The team then facilitated a process of solution generation with the facility staff. This step recognizes facility staff as those often best placed to address some of the challenges within their facilities. The team took care to intentionally focus on local, actionable solutions that were within the control of those at the health facility. Having the team, district representatives, and providers all together with the In Charge helped to ensure some accountability. Finally, the team took care to note higher-level issues that tended to be more systems-related (often linked to misunderstanding of policy, supply chain challenges, or insufficient enforcement of policies) that needed to be flagged for districts, partners, and other stakeholders for follow-up.

Health zone and district-level focal points also participated in the synthesis process, though they were not involved in the interviews themselves, so providers might feel freer to answer questions frankly. Through their participation in the synthesis sessions, the focal points provided valuable context for some of the higher-level challenges experienced by facility staff, particularly related to stockout issues, oversight, and training.

Finally, results were shared with health zone and provincial-level officials upon the team's return to the provincial capitals. The purpose of the debrief was to share the findings and insights gathered during the site visits to health zones and provincial-level officials. This sharing of results aimed to inform decision-making processes, facilitate coordination, and ideally catalyze actions, accountability, and follow up by different actors to address identified challenges and improve malaria service delivery at higher administrative levels.

Resources Required

The tool revealed unexpected insights as the team witnessed first-hand the challenges that healthcare workers face in delivering high-quality malaria services. A combination of national, provincial, health zone, facility In Charge, and provider factors influenced adherence to diagnosis and treatment guidelines, data collection and reporting, and stock management. While each facility varied in terms of size, location, number of staff, and supervision, similar factors shaped provider behaviors and resulted in:

- Mismanagement of uncomplicated and severe cases of malaria.
- Chronic stockouts of RDTs, ITNs, and ACTs (and subsequent inability to provide satellite facilities with adequate stock).
- Inaccurate documentation of malaria in pregnancy services.
- Delayed and incomplete HMIS reports.
- Non-administration of SP as directly observed therapy.

Each site visited revealed similarities and differences in the factors inhibiting high-quality malaria service provision. Findings from four of the six health facilities visited are summarized below. These findings illustrate the overall themes the team encountered in its visits to all facilities. The overall themes and findings are synthesized in the subsequent section.

Illustrative Site-Level Findings

Site 1: Private for-Profit Health Center

Domain	Key Observations	Influencing Factors
Case management	• Microscopy was overused when RDTs should have been used. • Microscopy was reportedly used even when a client did not present with a fever. • Prescription of ACTs in cases with a negative RDT. • Providers take clients' socioeconomic status into account when deciding what tests and kinds of drugs to prescribe.	• Income generation for this private facility incentivized the use of microscopy (which the facility charges for) and disincentivizes the use of government-provided RDTs (which are free per government policy). • Patient expectations led providers to overprescribe malaria treatment even when providers were aware this was not in compliance with national guidelines. • Lack of trust between providers and the owners of the health facility.
Supply chain management	• Regular stock inventory was not taken, and malaria commodities were often out of stock. • Free malaria medicine was co-mingled with privately purchased medicine in the pharmacy and pharmacy records. • Reception, pharmacy, and records rooms were shared spaces, making the sale and misuse of government-provided malaria commodities untraceable.	• Insufficient training and internal supervision on supply chain management; one doctor had received training, but none of the other staff had been trained on malaria. • Fees for some medicines appeared to incentivize the sale of certain commodities over those available for free from the government. • The facility owners influenced provider behavior by suggesting tests and treatment to generate income.

Domain	Key Observations	Influencing Factors
Record-keeping	• Record-keeping and data collection tools were incorrect, leading to underestimating malaria deaths. • Misrecording of SP doses (e.g., first doses were marked as a second dose if given during the second trimester). • Data was not checked before being entered into HMIS, leading to discrepancies and errors; further, data was only entered into HMIS once a year.	• Lack of staff training on appropriate recording of SP doses in the ANC register and internal checks by facility supervisors. • There has been no follow-up by the health zone for timely and complete data submission, as the health zone office tends to focus on public sector sites over private sector sites. • There is little incentive to enter data correctly as the facility is not under the close watch of the health zonal-level focal point.

Recommended Actions

For health facility staff:

To identify ethical ways the facility might generate funds without compromising adherence to guidelines or requiring excessive fees and services. Developing an income-generation plan may involve, for example, promoting paid services related to managing non-malaria fevers and other common conditions in the community. It is important to involve providers in developing this plan as they were uncomfortable with existing practices, which appeared to contribute to an erosion of trust between providers and health facility management.

- Prices should be posted, including what is free from the government, so that clients are fully aware of their rights and options.
- Health facility staff should counsel clients on appropriate diagnosis and management of suspected malaria to prompt appropriate care-seeking and temper client expectations about the need for malaria medicine.
- Improve recording of SP.
- Review HMIS data before submission and submit data more frequently to make the task of reviewing data easier.

Recommended Actions

For the health zone and higher levels:

- Strengthening the health zone's oversight over individual facilities was needed. To reduce the overprescription of ACTs and errors in reporting, the health zone malaria focal point should ensure that HMIS reports are disaggregated by health facility to obtain a more granular understanding of what is happening in each facility. It was also recommended that data be requested from each facility more frequently, ideally monthly. This will ensure that facilities with missing data are identified earlier.

- Since most facility staff had never received training on malaria case management and malaria in pregnancy, provide them with training on malaria case management. The training should cover expectations for when microscopy and RDTs will be used and how to handle client expectations. Additional aspects should specifically address the management of free and sold ACTs and appropriate documentation of SP doses.

- Follow up on action items and issues flagged during supervision visits to ensure accountability on the actions mutually agreed upon, including recommendations from the site visit.

Site 2: Public Health Center

Domain	Key Observations	Influencing Factors
Case management and malaria in pregnancy	• Non-adherence to directly observed therapy for intermittent preventive treatment of malaria in pregnancy (IPTp). • Apart from one staff member, other providers were not allowed to administer SP, resulting in a backlog of patients and overburdening one staff person. • Staff seem to operate independently, with little communication, teamwork, or task-sharing.	• Lack of water on site. • Controlling management style that results in providers feeling disempowered.
Supply chain management	• There were frequent stockouts; the facility rarely received the requested supplies. • The facility was not reporting ITN distribution, nor were ITNs requested from the health zone. • The facility issues ITNs to pregnant women at the first ANC visit but not to children or at any other ANC visits thereafter, even if stockouts inhibited them from doing so during the first ANC visit. • The facility could not meet the needs of the two lower-level facilities they oversee.	• The "push system" used to supply commodities from the health zone to the facility does not accurately reflect or account for actual facility needs. • There was a challenging management approach, with one staff member managing services and one managing the pharmacy and fees, with little coordination between the two. • There was a lack of teamwork, with providers reporting little information sharing or communication. • The facility received inconsistent messages since the implementing partner in the zone told the In Charge not to give ITNs after the first ANC visit, which conflicts with national guidelines.

Domain	Key Observations	Influencing Factors
Record-keeping	• Inventory was not tracked, raising questions about whether SP was sold. • There was no signage related to fees, so it was unclear if clients knew that SP was free. • Data was incorrectly recorded in registers and paper was used during a stockout of registers.	• Only two long-standing staff were allowed to manage all data recording in registers; they were unwilling to change their approach even though it is slower and more error-prone. • Little delegation of tasks allowed by management of the facility. • At one point, there was a stockout of registers in the facility when they failed to request new ones from the health zone creating a backlog of old records. The facility was not prepared for how to correctly record and manage data in these situations.

Recommended Actions

For health facility staff:

- There is a need to share tasks and build more coordination with staff beyond the two who are currently managing malaria services and record keeping and build more trust within and across the team of providers. For example, other providers could be empowered to administer and record SP going forward, and the team could hold regular monthly clinical meetings based on agenda items suggested by various team members, a common practice in other health facilities.
- Use government-provided inventory-tracking tools to track SP.
- Correctly record data based on the guidance provided during the site visit.
- Supervisors should review the quality of data and reinforce the best practices discussed. Consider positioning the longstanding/senior data leads as trainers, mentors, and data quality reviewers to acknowledge their contributions and value to the facility while empowering their colleagues to record data correctly.

Recommended Actions

For the health zone and higher levels:

- Additional zonal oversight is needed, though it was noted that the health zone often does not have the funds or transport to visit sites within this area. Instead, they could request to travel to the site with the implementing partner to conduct supervision visits together.
- The NMCP should speak with the implementing partner to clarify the national ITN policy and ask them to follow it so that no other facilities would be told not to give out ITNs at any time other than the first ANC visit.
- Higher-level action is also needed at the health zonal level to improve quantification so that stockouts are minimized.
- In the absence of travel funds, the health zone should conduct follow-up phone calls to monitor the implementation of the actions discussed during the site visit.

Site 3: Public Health Center

Domain	Key Observations	Influencing Factors
Case management and malaria in pregnancy	• A broken microscope mirror limited the lab's ability to accurately diagnose and monitor severe malaria cases (though they demonstrated resourcefulness using a flashlight). • Only lab staff are allowed to perform RDTs resulting in some providers relying on their clinical judgment rather than test results. • The lab staff does not wait the required amount of time to read RDTs. • Staff are treating severe malaria patients (even performing blood transfusions) under the oversight of two physicians, although the facility is not designated to do so. • The administration of IPTp is never directly observed. • Indication of low staff morale as each facility section appeared to be at odds and operating in factions.	• Little supportive supervision is conducted, so the challenges with the lab (both broken equipment and untrained staff) have gone unnoticed and unaddressed. • The health zone has little incentive to visit health centers close to town and prefers traveling to more rural sites given the higher per diem for travel. • Staff reported having too many responsibilities when the doctors on site could be taking on more. • Providers have not been trained since 2016. • There is no electricity or the ability to carry out microscopy, though providers believe they can accurately treat severe malaria. • Lack of management expertise/training to manage the growing facility resulting in a top-down approach that negatively impacts morale, teamwork, and quality improvement.
Supply chain management	• The In Charge manages resupply orders without coordinating with the pharmacist and does not account for the needs of satellite facilities.	• As the facility grew to include satellite sites, its management practices have not been updated to reflect this growth.

Domain	Key Observations	Influencing Factors
Record-keeping	• The ANC register is filled out incompletely. • The OPD register shows that treatments are given, but no malaria test results are recorded. • Adult doses of ACT are frequently split for children, but since there is no documentation, it is impossible to analyze consumption patterns and forecast demand.	• Staff may not be clear about the connection between appropriate documentation and resupply levels, and they may not realize the value of this practice. • Doctors may have an incentive to hide treatment of severe malaria, given they are not formally designated to do so by the health zone and are going against policy for their site.

Recommended Actions

For health facility staff:

- The facility should consider having all providers test clients for malaria; perhaps the lab technician can play an instrumental role in this change by training staff and monitoring appropriate documentation.
- Given the facility's role of supporting four satellite facilities, the In Charge should coordinate with the pharmacist and satellite facilities for resupply orders.
- The lab should wait the appropriate amount of time before reading RDT results.
- ANC staff should administer IPTp as directly observed therapy

Recommended Actions
For the health zone and higher levels: • The facility's classification should be revisited and followed up to ensure all staff are adequately trained, equipped, supervised, and operating within its legal scope. The facility has requested training for the past three years, so ideally, the health zone will support the request soon. • If electricity is available, a new microscope should be provided to the facility, or at least the broken mirror should be repaired.

Site 4: Public Health Center

Domain	Key Observations	Influencing Factors
Case management	• The In Charge makes all decisions regarding patient treatment. If the In Charge is not present, sick clients are asked to return, resulting in sick patients going untreated or being expected to return to the facility another day. • The facility is not designated to treat severe cases, yet it provides improper treatment for suspected severe cases (e.g., ACTs) and does not refer cases to facilities that can provide proper care.	• Lack of malaria training by all but the In Charge. • The In Charge is fearful other providers will make mistakes and is, therefore, reluctant to share responsibilities or give up control out of fear that a pregnant woman might die. • There is low staff morale, as they have requested a microscope and supplies for the past five years, but none have arrived. • Staff are rarely paid on time by the government, work long hours, and openly express frustration and a lack of motivation.

Domain	Key Observations	Influencing Factors
Malaria in pregnancy	• IPTp administration was not observed; pregnant women are sent home with SP with advice to take it with food.	• Staff have too many responsibilities to manage IPTp administration and long queues of clients to serve.
Stock availability/ management	• Frequent SP and RDT stockouts lead to presumptive treatment of suspected malaria cases. • Staff do not record stock usage or anticipate use to avoid stockouts. • Satellite facilities request more stock than the facility provides.	• The pharmacist manages all medicines except those related to malaria, while the In Charge manages the malaria stock. As a result, the In Charge does not consider the reality of satellite sites' needs when planning orders. • Staff might not appreciate or understand that appropriate documentation and forecasting can reduce stockouts. • Staff conveyed low expectations for the health zone in responding to their needs based on experience and limited supervision received.
Record-keeping	• No registers were available, so staff were using notebooks for record-keeping. • Most data are not recorded, and what is recorded does not match official registers. As a result, the data is disorganized and incomplete, and it is difficult to verify whether the In Charge, who enters all HMIS data, captures facility data accurately.	• Lack of registers and processes to capture data.

Recommended Actions

For health facility staff:

- The In Charge should provide training on basic malaria case management and facility SOPs updated so nurses can administer RDTs and ACTs in a timely way.
- The In Charge should begin coordinating stock requests with the pharmacist and satellite sites to minimize the potential for future stockouts.
- The facility was encouraged to obtain registers from the health zone and province and begin using them instead of self-made registers. The templates in self-made registers should match the official registers.
- Staff were encouraged to add up totals at the bottom of each page in the registers to facilitate spot checks and minimize data errors when reporting data into HMIS.

For the health zone and higher levels:

- All staff at this facility were recommended to receive training on malaria case management, including management of suspected severe cases, malaria in pregnancy, and supply chain management.
- The In Charge welcomed additional coaching and mentorship, as he had minimal support or awareness of some of the tools at his disposal from the health zone.
- It is vital that staff are paid on time and commodity stockouts are reduced and prevented; these issues have eroded facility staff's trust in higher levels as well as staff morale and facility performance.

Summary of Themes Identified Across Facilities

Practices Observed

- **Non-adherence to national guidelines.** While there was variation across facilities, adherence to national diagnosis and treatment guidelines was low in most facilities visited. Directly observed therapy for IPTp was not observed in most of the sites, treatment with ACT after negative RDT test results was common, and many facilities that were not designated as facilities to treat severe malaria, were treating severe malaria with ACTs rather than referring clients. Sites with microscopes tended to perform both an RDT and microscopy for patients with suspected malaria. The national guidelines are clear that an RDT should be done first, and if negative, then microscopy may be performed, but they should not be done at the same time. Some health facilities perform them concurrently to generate profit or choose to skip the RDT and go straight to microscopy, which they may charge for.

- **Poor stock management.** While most facilities do not receive the quantity of RDTs, ACTs, and ITNs they request, health facility management practices exacerbate the issue of stockouts. Some pharmacies separate government-provided commodities from those purchased in the private sector, but most do not. Government and private sector RDTs and ACTs were commingled in most pharmacies. None of the sites visited kept track of trends in consumption or attempted to forecast the needed amounts of ACTs, RDTs, or ITNs. None of the sites visited could furnish their satellite facilities with the quantity of commodities requested. Financial incentives for selling commodities were also mentioned. Further, in public sector sites, health facilities may also have sold stock to ensure payment of salaries and top-ups to their staff to motivate them when salaries were delayed.

Practices Observed (cont.)

- **Issues with record keeping.** All sites visited had issues with record keeping. Issues identified included not having registers, using registers incorrectly, and failing to spot-check to ensure concordance between registers and HMIS reports. In all facilities where malaria was treated even after a negative diagnostic test, the test result was omitted from the records, indicating a tacit understanding of the difference between behavior and protocol.

Influencing Factors

- **Ambiguity in expectations.** In most facilities, staff lack clarity on their delineated roles and responsibilities and are often unclear as to why certain decisions are made. Little communication reaches them, and many operate independently rather than as a team who problem solve together. This ambiguity contributes to an environment where an In Charge is left to direct staff in any manner, he or she deems the most economically viable for their facility. Even in public sector sites, providers may get a top-up to their salary from income from their facility. In many instances, decisions not to follow national guidelines were logical and often made out of compassion for patients (e.g., treating them rather than asking them to travel back to the facility). Patients often delay treatment-seeking and completion of referrals, leaving health workers at lower-level facilities to decide to treat a severe case of malaria with an ACT or worry their patient may die.

Influencing Factors (cont.)

- **Misaligned economic incentives.** Facilities used microscopy to generate income even though performing microscopy when malaria RDTs were available (and free) is against national policy. There is a need to collaborate with health officials, facility staff, and client representatives to identify other means of raising funds for facilities without relying on (often lengthy, inexpert, and inaccurate) microscopy to manage suspected malaria cases. Further, the lack of documentation in the registers, labs, and pharmacies sometimes left ample room for selling commodities. Delayed salaries and the potential for topping up salaries based on income-generating activities may create further incentives for unwarranted use of microscopy, non-referral of suspected severe cases to other facilities, and sales of government-provided commodities.

- **Lack of regular mentorship and supervision.** After triangulating data with a variety of staff in the facility, it was clear that they receive little mentorship or supervision nor are they always aware of issues identified in supervisory visits. Supportive supervision visits tend to typically interact with the In Charge alone (and do not include observations in the lab nor in consultations as done in other places), providers felt their needs were not always seen nor addressed and hoped for more direct support to address issues around lack of teamwork and negative workplace environments, which continue to persist. The NMCP also found it helpful to review facility records by cross-checking them against the data in the HMIS monthly reports and, in doing so, found consistent inaccuracies. Further, the NMCP provincial focal points observed the health zone/district preference for visiting rural sites over urban sites, which may have higher numbers of clients. Finally, action items identified in supervisory visits were not shared with the staff beyond the In Charge, nor documented where they might be found by staff or those conducting future supervisory visits, and consistent follow-up appeared to be lacking, so some facilities did not necessarily feel accountable to address the challenges identified.

Influencing Factors (cont.)

- **Infrequent collection of health facility data and lack of data disaggregation by facility**. In one of the health zones visited, HMIS data was only collected once or twice a year, and only zonal-level summaries were compiled. This practice masks facilities with incomplete data and makes identifying and correcting errors difficult. Further, even when the data was entered more frequently, it was clear that it was rarely accurate.

- **A notable lack of training in malaria case management, malaria in pregnancy, supply chain management, and record-keeping across facilities.** This may have contributed to poor adherence to guidelines, an over-centralization in roles (creating inefficiencies in patient care), and stockouts. For example, rather than multiple staff providing basic fever management with the use of RDTs and ACTs, the use of RDTs or prescription of malaria medication was limited to one provider or lab technician who may not have adhered to treatment or testing protocols. Moreover, overuse of ACTs may have contributed to stockouts by depleting supplies more quickly than anticipated and using limited resources on clients who do not need them.


Photo credit: PMI

DRC Pilot Learning and Recommendations

Based on the six health facilities visited as part of this assessment in the two separate provinces and the common themes that surfaced in each province and across sites (summarized above), the assessment team shared its perspectives and key takeaways with the health zones, provincial NMCP, other implementing partners, and PMI in debrief meetings in each province. These perspectives are summarized below:

- Staff seemed to either lack awareness of national malaria guidelines, commodity management practices, and data recording/reporting - or they worked within management structures that disregarded them for reasons such as income generation. Key areas where this was apparent include:
  - Use of microscopy vs. RDTs
  - Diagnosis and management of suspected cases of severe malaria in alignment with the facility's classification/legal scope of practice, including triage, the use of pre-referral treatment, and referrals
  - Counseling caregivers and patients with severe malaria to facilitate their completion of referrals and treatment
  - Documentation of malaria test results and SP doses
  - Practices for routinely checking data quality and creation and submission of monthly summary data
  - Processes for documenting the usage of free and for-sale stock of ACTs
  - Forecasting commodity needs, including coordinating with satellite facilities
  - Use and tracking of seed stock and related funds for replenishing commodities and supplies

Learning and Recommendations (cont.)

- Facility staff demonstrated resourcefulness in developing workarounds to common workplace challenges such as broken microscopes, register stockouts, and ACT stockouts. However, a lack of health zone oversight and support hurt morale and allowed egregious non-adherence to guidelines to continue without course correction to the detriment of the quality of care. Innovations in supportive supervision and mentorship need to be seriously considered, and donors should be actively engaged in this discussion with the relevant partners. Low-cost approaches to health facility support and motivation should be considered. These may include WhatsApp, SMS, and phone calls by supervisors and mentors, providing open access to supportive supervision standards and checklists for health facility staff to monitor themselves and their peers and satellite facilities, and quality assurance meetings, among others.

- Poor data recording and reporting practices were prevalent across health facilities. Staff appear to either not understand their responsibilities, be under-trained to perform them, or don't recognize the value that proper data recording can have. Poor data quality has cascade effects on supply chain management, resulting in a reliance on a push rather than a pull system and stockouts. There is a need for greater oversight and consistent attention from the health zone on data quality issues, which could be integrated into strengthened supervision and mentorship efforts. At the very least, the health zone can communicate this importance to health facility staff and reinforce it through frequent data collection and clarifying the expected process for facility-level data checks.

- Donor partners should be attentive to these issues and collaborate across service delivery, supply chain, surveillance, monitoring, and evaluation, and social and behavior change stakeholders to support health facilities, health providers, and health zone teams.

Key Learnings from Testing the Tool

- The tool's open-ended yet structured and qualitative nature was helpful as it facilitated a deeper understanding of clinical practice processes, the workplace environment, and team dynamics. This revealed why certain tasks were not being completed as desired, as well as bottlenecks and inefficiencies within and beyond the scope of providers and In Charges. The tool systematically examined and uncovered factors contributing to service delivery gaps at both facility and higher levels, such as provider perceptions and attitudes, power dynamics, finances, and the quality of supervision.

- The tool enabled documentation of these reasons, which are often overlooked in simple checklists or yes/no tools. Equipped with this information, supervisors and health officials can more effectively mentor and support providers to implement guidelines and best practices within their specific facility contexts. The qualitative exploration helped explain why some actions are taken given the behavioral drivers underpinning what are often quite rational decisions given the context of constraints in which the providers interviewed were operating. Each site visit took half a day and included interviewing several providers, including lab and pharmacy staff. Service delivery gaps in most facility functions, from client consultations to treatment, diagnosis, reporting, and supply chain management, were examined in detail. The DRC experience shows the tool can be effectively implemented without unduly burdening users and providers or impeding the provision of care.

Key Learnings (cont.)

- Teams implementing the tool need to be flexible. Some staff were not available or cooperative, some registers were unavailable, or only improvised registers were available. The flexible nature of the tool allowed for the site visits to continue and to collect rich data regardless of these challenges. Similarly, phone screenings were not carried out as initially planned due to the extensive nature and duration of the service delivery deficits observed during the data review (suggesting that more than commodity shortfalls were at play); however, phone calls were still useful for preparing facilities for the site visit.

- The tool worked well in a variety of facilities. A rich exploration and understanding were obtained from private not-for-profit, public, PMI, and Global Fund-supported, and primary and secondary level health facilities.

- Register reviews, which included cross-checking indicators in registers and monthly reports might appear lengthy at first glance, but because they are primarily used for identifying problems and facilitating discussion/inquiry with staff, they can be approached flexibly. The pilot demonstrated that this can be done quickly and, in all instances, showed significant discrepancies between facility data and what was reported during supervision or with HMIS reporting.

- The process created a safe space for providers and drew out important qualitative data. It revealed challenges faced by providers and suggested approaches for addressing them; they just need to be asked, and the tool provides spaces for them to share their knowledge in Steps 3 (during individual interviews) and 4 (during the facility-level group synthesis). Frank and open discussion during the feedback process was well received, as most providers were keen for feedback.

Key Learnings (cont.)

- Talking to multiple people, triangulating data, and providing all providers interviewed with the results gleaned during the visit make the tool unique and effective. Combining the data review exercise and qualitative reflection helps uncover the full story.

The tool must not be seen as concluding with a site visit and development of action plans but rather with at least one or two follow-up sessions, such as the 1-month and 3-month post-visit periods, to monitor the implementation and results of those action plans. Moreover, action plans need to be specific with defined steps and responsible point persons making clear what is actionable at the health facility level and what requires attention at a higher level. It is also necessary that copies of the action plan are left with the facility and health zone/district as accountability tools.

Finally, testing revealed a handful of translation issues, and some questions were duplicative or did not elicit the responses they were intended to, resulting in further streamlining of the tool.


Photo credit: PMI

Recommendations for Optimal Implementation

Overall planning and preparation. It is important to engage the NMCP, donors, and implementing partners in using the tool from inception through synthesis to help ensure that they are part of the process, can help address the findings, and follow through to support the resulting actions and recommendations (see more in Step 4, below).

Step 1: Identify facilities requiring further inquiry. The review of existing HMIS data in DRC revealed that many facilities had pressing and protracted issues across multiple service delivery areas, including case management, malaria in pregnancy, ITN, and data quality, making site selection challenging. A way to address this problem in the future is to introduce additional sub-steps or criteria for prioritization. The data reviewed could be narrowed down to a priority challenge (for example, specific indicators related to case management) or triangulated with additional data sources. For example, facilities with poor case management indicators before and after supportive supervision visits could be selected for further screening (in this case, the additional data source is administrative data on which facilities received supportive supervision within the past year). Other criteria for prioritization could include high patient volume, severity (potentially based on the number of low-performing indicators), and duration of poor performance. An equity criterion that allows facilities near underserved populations or hard-to-reach areas to be included in the pool could also be introduced. Criteria for selection ultimately depend on the use case. For example, the criteria for selecting facilities in situations where there is a need to understand how recent changes to the underlying context are impacting malaria service delivery (e.g., elimination districts, districts where interventions are withdrawn, and facilities where research studies are ongoing), the criteria will be different.

Recommendations for Optimal Implementation (cont.)

Step 2: Phone screening to confirm the need for a site visit. Phone screening may not be needed for every facility flagged by the data review. In the DRC, the data review flagged facilities with numerous and persistent malaria service delivery challenges. In such cases, phone screenings were used as an introduction to the process and site visit since these facilities clearly required in-person investigation.

Phone screenings may be necessary when the flags and affected time points are few (e.g., one or two), and the flagged facilities are difficult to access and resource-intensive to visit. In these cases, it makes sense to conduct phone screenings to rule out isolated incidents and ensure appropriate resource allocation for follow-up actions.

Step 3: Conduct site visits to identify contributing factors. It is vital to ensure assessment teams approach the implementation of this tool with empathy and a lack of judgment. For example, site visits should not be framed as supervision or fault-finding expeditions. Instead, when framed as open-ended explorations intended to understand ways to strengthen facility support, providers appeared eager to unpack their challenges. This built empathy and resulted in open reflection and discussion. This worked well in DRC; staff opened up and engaged during the interviews and validation of findings; they were hungry for feedback and a chance to share their experiences and recommendations.

Step 4: Review findings with stakeholders and identify next steps.
Recommendations, next steps, and action plans are developed with facility staff, district health teams, and other stakeholders at the end of the process. It is essential to make these action plans SMART (specific, measurable, achievable, relevant, and time-bound) and specific actors responsible are clearly identified. Moreover, a health facility staff person and a district or provincial focal point are ideally identified as the focal points for recording the action plans at their respective levels.

Recommendations for Optimal Implementation (cont.)

Finally, it would be helpful if, for each of these levels, a distinct timeframe and process for troubleshooting support and accountability is agreed upon during the synthesis process. This may take the form of doing a brief read-out/review during monthly or quarterly review meetings, incorporating the actions into district/provincial/etc. annual operational plans, incorporating follow-up into subsequent supportive supervision visits or in a WhatsApp group.

Recommendations for Potential Future Use Cases

In DRC, the tool was used to follow up on discrepancies observed in the HMIS. However, there are other situations where the tool, or elements of the tool, may be applied:

- As a companion or complement to supportive supervision. Supportive supervision data can trigger the use of the tool to further investigate causes of poor performance in select facilities. This tool can also identify specific sites and topics that need focused mentorship and supervision support. Furthermore, portions of this tool can be used during supportive supervision visits. Aspects such as interviewing a variety of providers, cross-checking register and HMIS monthly reports, incorporating more open-ended questions and fields to capture qualitative information on contributing factors, and discussing the findings and recommendations with all providers could be integrated into routine supportive supervision.

Recommendations for Potential Future Use Cases (cont.)

- To understand the nature of service delivery in changing, unique, or novel contexts. Changes in broader health system policies such as health workforce staffing and scope, health facility financing, facility reclassifications, new initiatives piloted, and so on may warrant a brief examination of how such changes are transpiring in each health facility. It may also be used where it is necessary to ascertain the extent to which facilities are providing quality care in geographies where the population may be more vulnerable or where quality case management is particularly critical (for example, when a key intervention is withdrawn, during an environmental or humanitarian crisis, in an elimination context, or for a research platform). This tool can be used to understand how these policies or changing contexts are being interpreted and implemented at the facility level and how this implementation impacts the nature of malaria service delivery.

- To systematically identify high-performing facilities and assess factors contributing to high performance. The process reflected in the tool can be used to identify facilities with high-performing malaria service delivery and uncover key factors and practices contributing to their success. These can then be assessed for scalability using criteria such as their adaptability across contexts, feasibility, alignment with guidelines and policies, and other relevant criteria.

- To pair with tailored training activities for facilities. An abbreviated version of the Malaria Service Delivery Assessment Tool could be deployed to identify training needs and to provide same-or-next-day training for facility staff.

Recommendations for Potential Future Use Cases (cont.)

The DRC pilot revealed that the tool allowed for a more nuanced understanding of the causes underlying service delivery gaps. By considering not only structural factors but also behavioral aspects such as provider motivations and context-specific processes, the tool helped the NMCP, health officials, and implementing partners to identify and highlight challenges that may have otherwise gone unnoticed, undocumented, and/or unaddressed as well as characterize potentially systemic issues that merited follow-up beyond the facility and district/health zone levels. There may be additional uses for the tool beyond those highlighted above, though each country's needs and context should shape the use of the tool in the ways local actors see fit.

Next Steps

After the DRC pilot, the tool underwent a few changes. The interview guides were shortened, and there was increased emphasis on following up on the recommendations and action plan. Further testing and application are currently planned.

Readers of this brief are encouraged to review the tool and consider its use in a few health facilities in their contexts to understand what they find valuable and whether an approach that incorporates behavioral considerations into a systems lens might help them think differently about health facility challenges and potential solutions. Finally, countries are encouraged to consider how the tool might complement existing quality improvement activities and which elements, if any, may make the most sense to integrate into their work.